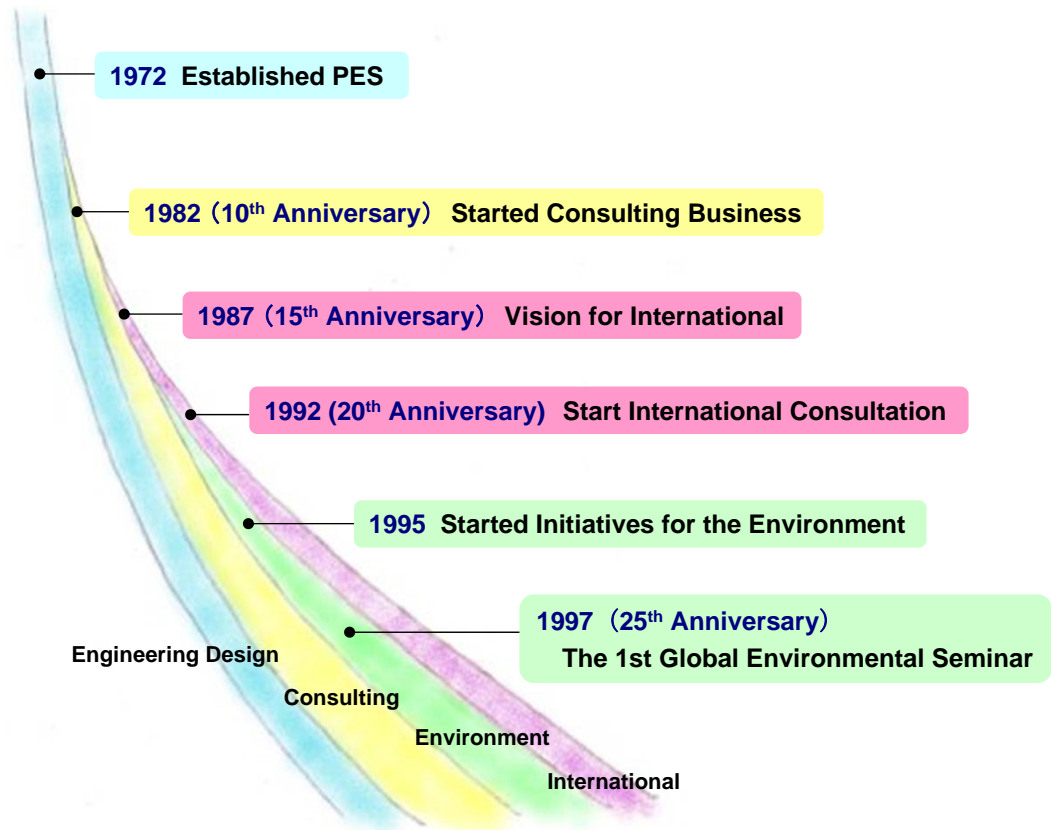




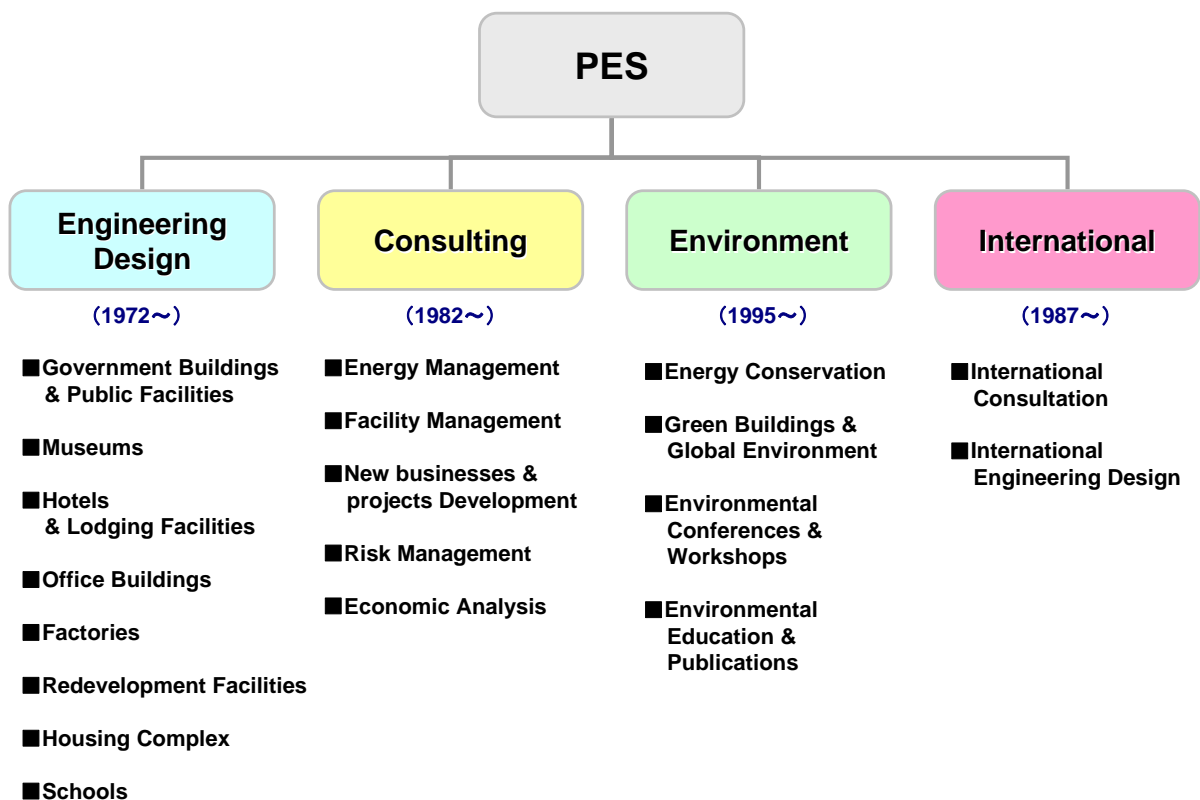
Planning the Environmental Space

March 27, 2012

HISTORY



SERVICES



CLIENTS

Engineering Design

GOVERNMENT & LOCAL GOVERNMENT

■ Ministry of Land, Infrastructure, and Transport	<ul style="list-style-type: none"> • Toyota Regional Government Building • Kariya Regional Green Government Building ★
■ Aichi Prefecture	<ul style="list-style-type: none"> • Kizenryo (Nursing home for the handicapped) • Kariya Public Health Center
■ City of Nagoya	<ul style="list-style-type: none"> • Nagoya Port Building ★ • Nagoya City Life Science Museum ★ • Tomida Incineration Plant (Integrated waste heat reclaim for swimming pool project) ★
■ Ministry of Defense	<ul style="list-style-type: none"> • Hangar • Fuels Facilities • Gymnasium • Radar Facilities • Office Building
■ City of Shimanto	<ul style="list-style-type: none"> • Healing Resort Eco-Lodge Shimanto ★

PRIVATE

■ Yamaha Corporation (music)	<ul style="list-style-type: none"> • Research and Development in Toyooka Plant (Semi Conductor) • Clean Rooms in Toyooka Plant • Renovation of Industrial Plants
■ Yamaha Motor Co., Ltd.	<ul style="list-style-type: none"> • Technical Center (Headquarter) ★ • #5 Iwata Industrial Plant ★
■ Yamaha Marine	<ul style="list-style-type: none"> • Hukuroi Industrial Plant (Supervision on Design & Build) ★ • Arai Technical Center ★
■ Washington Hotel Corporation	<ul style="list-style-type: none"> • Hiroshima Royal Washington Hotel ★ • Supervision on Design and Construction for new Hotels (16 Hotels)
■ JR Shikoku	<ul style="list-style-type: none"> • Healing Resort Eco-Lodge Shimanto ★
■ Pathos (Architect)	<ul style="list-style-type: none"> • International 「TAKUMI」 College ★
■ RIA (Research Institute of Architecture)	<ul style="list-style-type: none"> • Urban Redevelopments • Kariya Industry Promotion Center ★

CLIENTS

Consulting

GOVERNMENT & LOCAL GOVERNMENT

■ Aichi Prefecture	<ul style="list-style-type: none"> • Deterioration Inspection & Evaluation for Existing Public Buildings
■ City of Nagoya	<ul style="list-style-type: none"> • Case Study for Renovation of 5 Existing different building types (LCC, LCCO₂ Analysis) • Operation & Maintenance Manual for Nagoya International Congress Center ★
■ City of Shimanto	<ul style="list-style-type: none"> • Operation & Maintenance Manual for Eco-Lodge Shimanto

PRIVATE

■ Yamaha Corporation (music)	<ul style="list-style-type: none"> • Energy Conservation • Relocation of all the Plants in Japan ★ • Risk Management ★ • Facility Management • Life Line Recovery
■ Yamaha Motor Co., Ltd.	<ul style="list-style-type: none"> • Energy Auditing and Improving • Energy Management Program
■ Yamaha Marine	<ul style="list-style-type: none"> • Deterioration Inspection & Evaluation for Upgrade Plan • Feasibility Study of Alternative Energy ★
■ Daikin Industries, Ltd.	<ul style="list-style-type: none"> • HVAC System Development for VRV
■ Ricoh Logistics System Co., Ltd.	<ul style="list-style-type: none"> • High Efficiency Storage and Logistics System of Daikoku-cho Logistics Center ★
■ Washington Hotel	<ul style="list-style-type: none"> • Technical Standard • Energy Conservation Audit • Studies and Renovation Programs
■ Toho Gas	<ul style="list-style-type: none"> • Feasibility Studies of District Heating & Cooling (Nagoya, Okazaki)
■ Hiroshima Gas	<ul style="list-style-type: none"> • Co-generation system of Hiroshima Washington Hotel
■ Chubu Electric Power Co., Inc.	<ul style="list-style-type: none"> • Ice Storage System Planning
■ Kubota Trane	<ul style="list-style-type: none"> • Product Catalogue for Building Owners and Executives ★

CLIENTS

Environment

GOVERNMENT & LOCAL GOVERNMENT

■ Ministry of Land, Infrastructure, and Transport	<ul style="list-style-type: none"> Green Technology Implementation for Government Buildings Green Commissioning (LCCO₂, CASBEE Analysis)
■ Aichi Prefecture	<ul style="list-style-type: none"> Standard for Environmentally Friendly Public (Environment Rating & CO₂ Reduction Calculation Software)
■ City of Nagoya	<ul style="list-style-type: none"> Green Building Guideline for Public Buildings
■ City of Shimanto	<ul style="list-style-type: none"> Implementation of Healing Resort Eco-Lodge Shimanto ★

PRIVATE

■ Washington Hotel	<ul style="list-style-type: none"> Environmental Education for Eco-Hotel
■ JR Shikoku	<ul style="list-style-type: none"> Healing Resort Eco-Lodge Shimanto ★
■ Ricoh Engineering	<ul style="list-style-type: none"> Research and Proposal for Eco-office Implementation
■ Daikin U.S. Corporation	<ul style="list-style-type: none"> Environmental Catalogue (LCCO₂ Analysis)
■ Chubu Electric Power Co., Inc.	<ul style="list-style-type: none"> Green Commissioning & Renovation Planning

CLIENTS

International

PRIVATE

■ Lehr Associates / J.P. Morgan Bank	<ul style="list-style-type: none"> Expansion and Renovation of Morgan Bank, Tokyo, Japan ★
■ Lehr Consultants International	<ul style="list-style-type: none"> Jebel Ali Zone 1-Block 2 Mixed use buildings, Dubai, U.A.E
■ Yamaha Corporation (music)	<ul style="list-style-type: none"> YAMAHA AMERICA MUSIC PLANT, Grand Rapids, MI, U.S.A. ★ YAMAHA FRANCE DESIGN REVIEW Minchari Metal Plant, Taiwan
■ Daikin U.S. Corporation	<ul style="list-style-type: none"> Variable Refrigerant Volume (VRV) System evaluation ★ Marketing & Cost Study marketing study, U.S.A. ★
■ TOTO U.S.A., INC.	<ul style="list-style-type: none"> Environmental Consultation for marketing, U.S.A
■ Toyota Motor Corporation	<ul style="list-style-type: none"> Study and Research for Toyota Housing Project, U.S.A.
■ Toyota Motor North America, Inc.	<ul style="list-style-type: none"> Green Building Cost Study for San Antonio plant, U.S.A
■ GFPT Nichirei (Thailand) Company Limited	<ul style="list-style-type: none"> Environmental Consultation for Chonburi New Plant, Thailand ★
■ Studio Dream (Architect)	<ul style="list-style-type: none"> Gudang Garam The Tower + Residential Complex, Jakarta, Indonesia ★
■ AKF	<ul style="list-style-type: none"> Investigation and Assessment of the Gas Turbine Failure Norwalk Hospital, CT, U.S.A Budget Estimate Check for Pfizer Nagoya Plant



Kariya Regional Green Government Building

Location : Kariya

WORKS

Major Green Technologies

(Categorized by the Japanese government)



Local Environment Conservation

- Greening of the site/green roof
- Countermeasures for Light Pollution/Air Pollution



Conservation of Energy and Resources

- Sun shade eave
- Natural lighting
- Photovoltaic power generation equipment
- Rainwater harvesting equipment (watering)
- Heat reflecting glass
- High-efficiency lighting fixture + lighting control
- Hybrid (solar & wind) outdoor light
- VAV & VWV
- Ultra high efficiency transformer
- Low-flow plumbing fixtures



Long Life

- Compact air-handling unit
- Elevators without machine rooms
- Extra space to appropriately meet future changes
- Access floors
- Variability of interior partitions



Eco Materials

- Exterior wall tiles with recycled content
- EM cables
- Stainless steel pipes and tanks



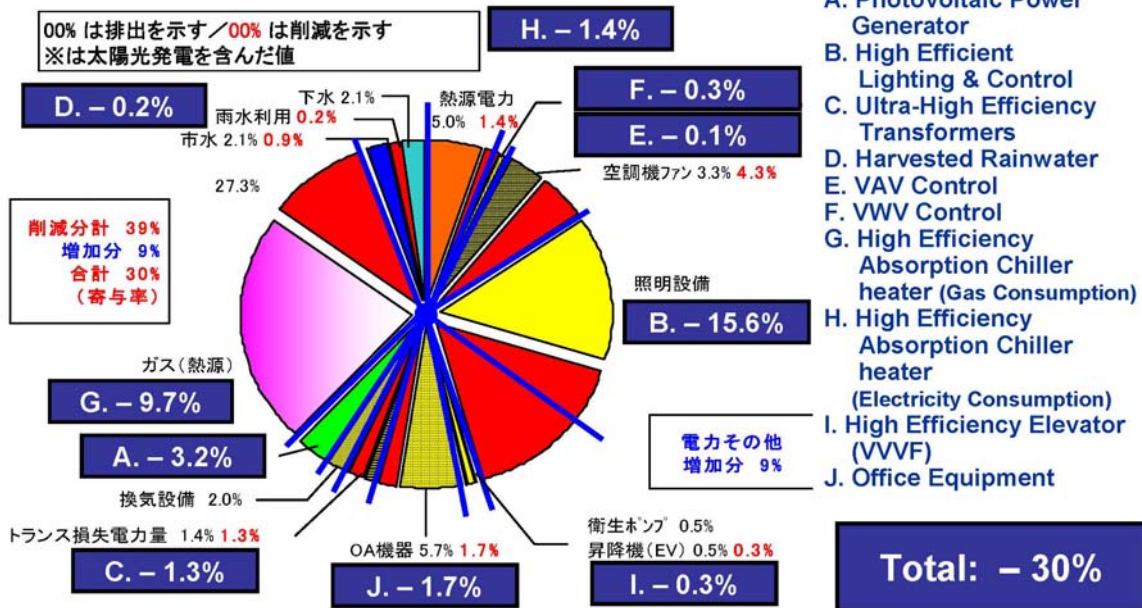
Appropriate Use and Disposal

- HCFCs
- Non-CFC heat source (Absorption heater chillers)

WORKS

Break Down CO2 Emissions (Conventional vs Green Office)

運用段階年間CO2排出量 従来水準比較でトータル30%削減



WORKS

Engineering Design



Design Competition,
Uchi Murase (Architect)

Location : Nagoya

Nagoya Port Building



Location : Nagoya

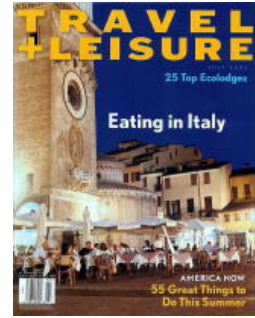
Nagoya City Life Science Museum



Location : Nagoya

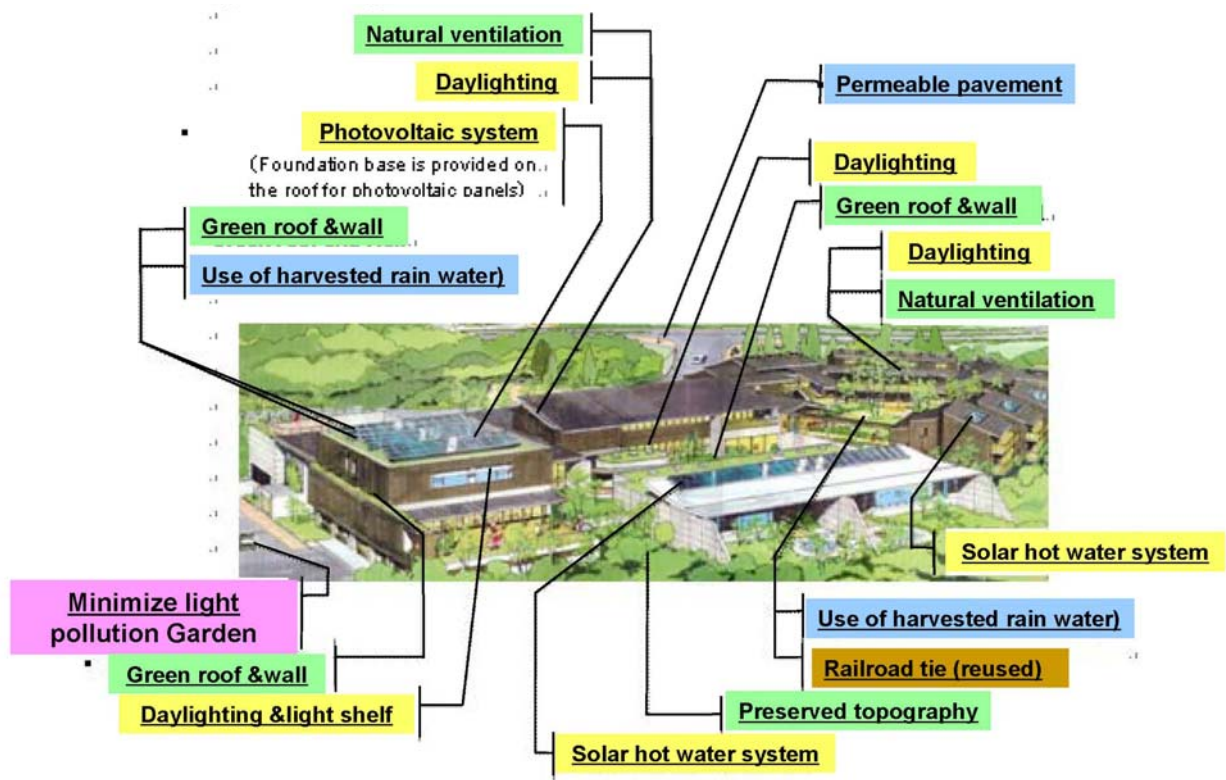
Tomida Incineration Plant

Integrated waste heat reclaim for Swimming Pool project

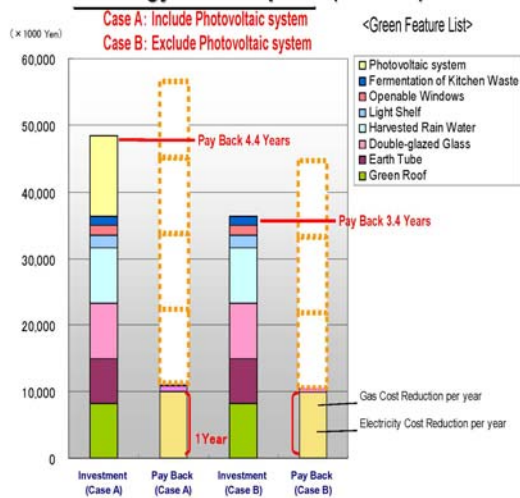


Location : Shimanto

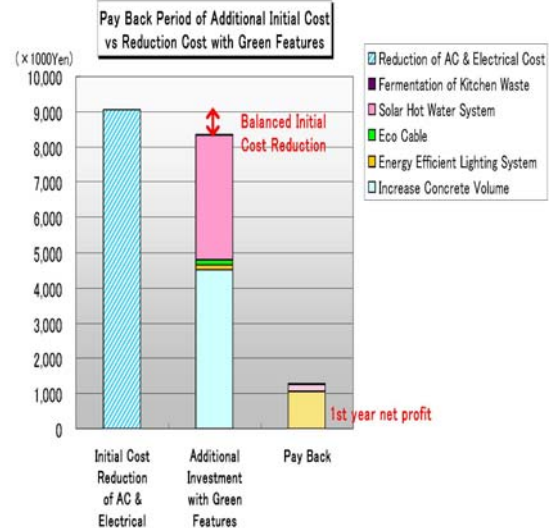
Healing Resort Eco-Lodge Shimanto



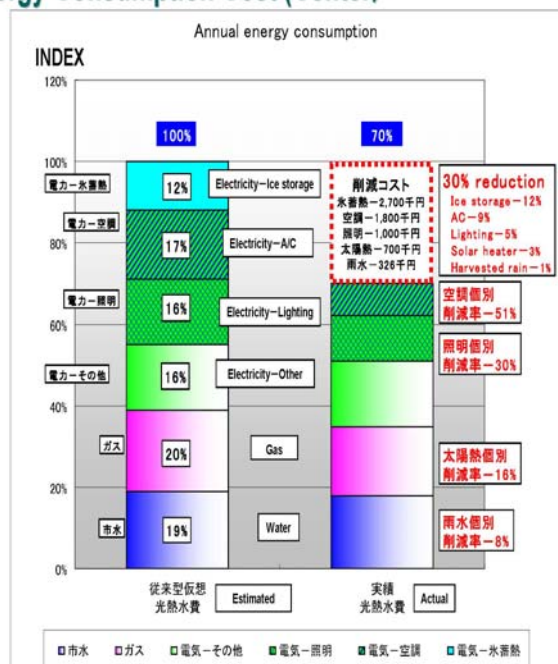
Eco Lodge Shimanto Pay Back Period Calculation for Green Features with less energy consumption (Center)



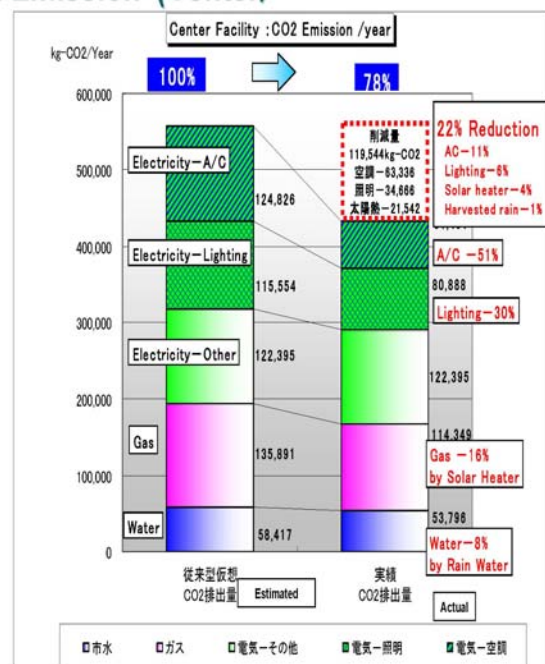
Pay Back Period Calculation (Hotel)



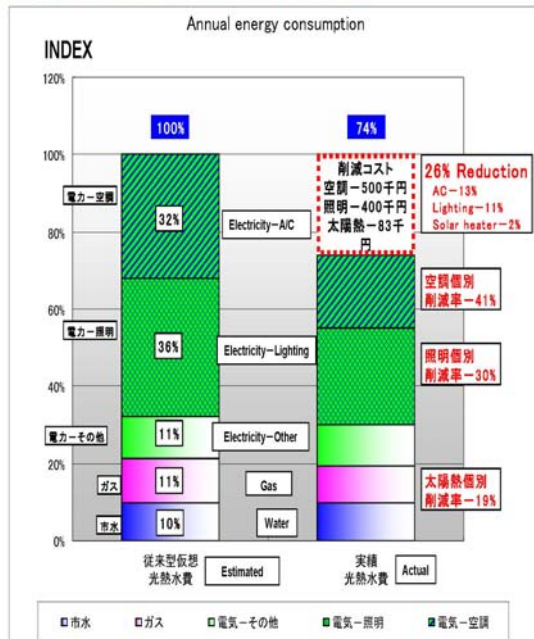
Energy Consumption Cost (Center)



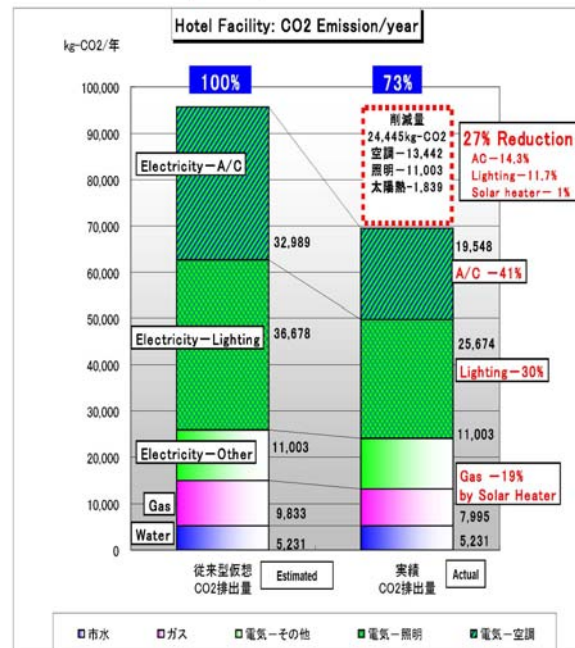
CO2 Emission (Center)



Energy Consumption Cost (Hotel)



CO2 Emission (Hotel)



Location :Iwata

Yamaha Motor Technical Center (Headquarter)

Perimeter : Through the Wall Heat Pump
Interior : VAV



Location : Iwata

Yamaha Motor #5 Iwata Industrial Plant

HVAC Stratification & Easy Maintenance
High ΔT (12°C) Absorption Machine



Location : Fukuroi

Yamaha Marine Fukuroi Industrial Plant

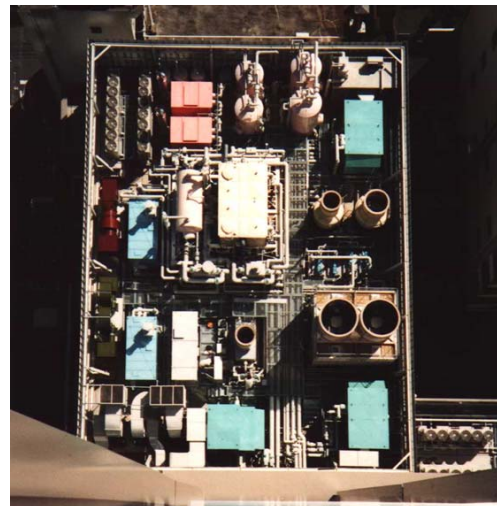
Supervision on Design & Build



Location : Arai

Yamaha Marine Arai Technical Center

Absorption Chiller & Heater, Gas Engine Heat Pump



KMD San Francisco (Architect)

Hiroshima Royal Washington Hotel

Co-generation system (270kw)
Waste Hot Water Source Absorption Chiller (40RT)

Location : Hiroshima



Design Competition,
Pathos (Architect)

Location : Minokamo

International 「TAKUMI」 College



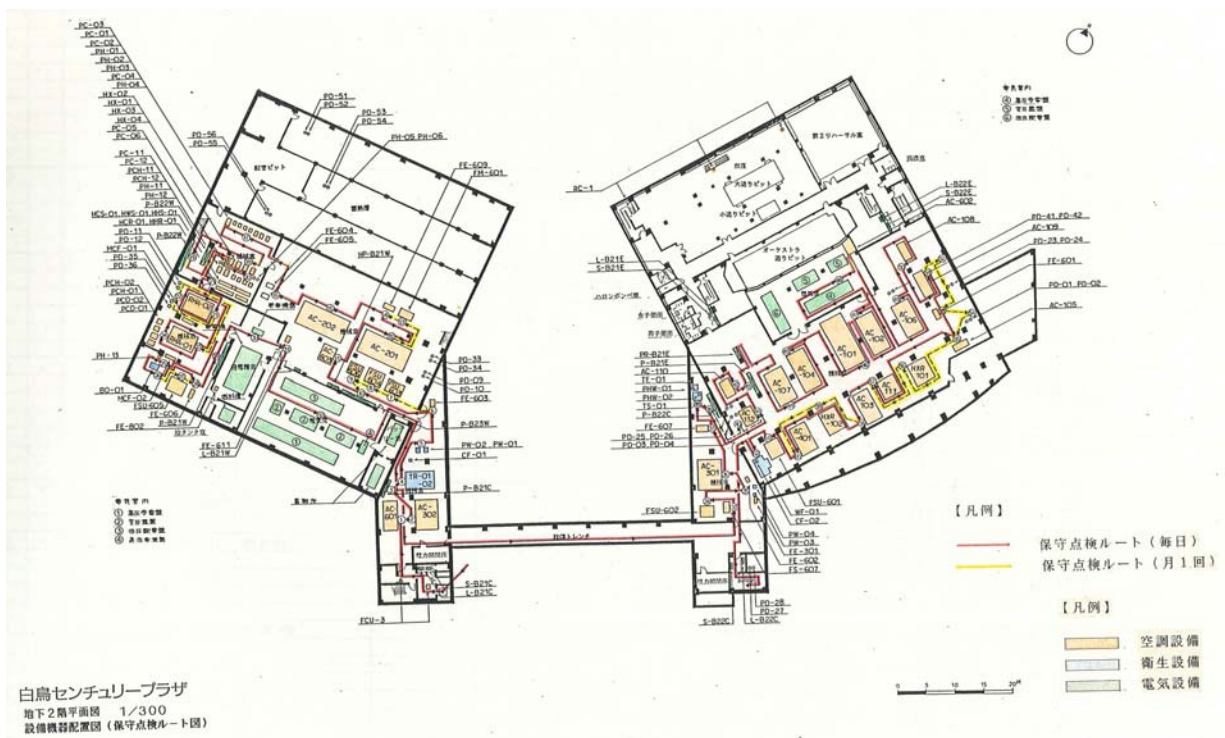
Location : Kariya

Kariya Industrial Promotion Center

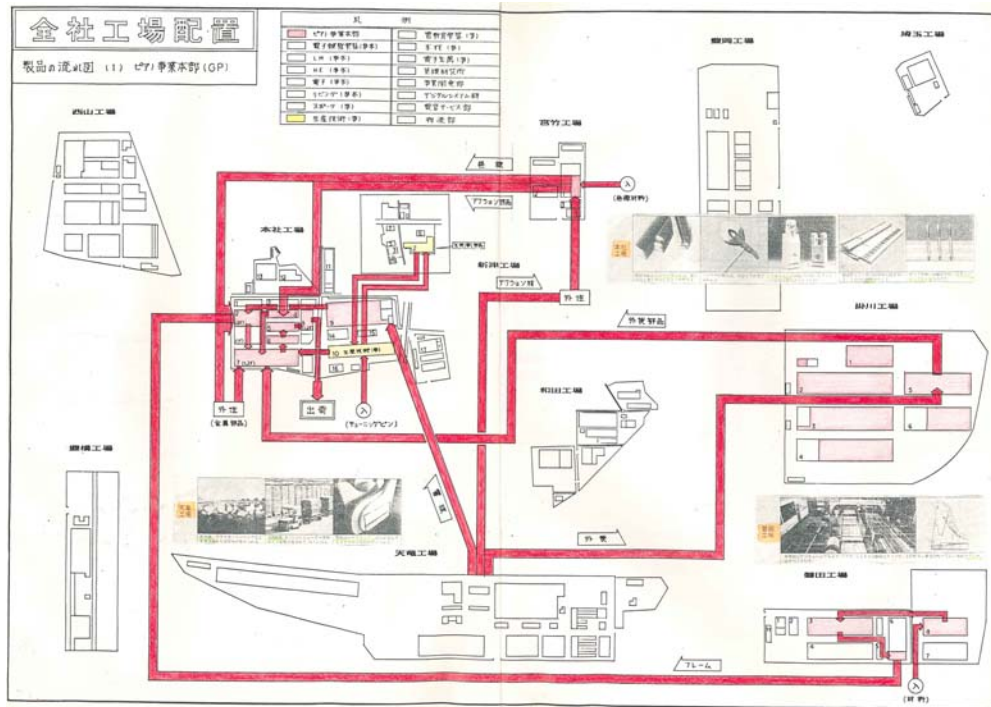
Exposition Hall & Treading



Operation & Maintenance Manual for Nagoya International Congress Center

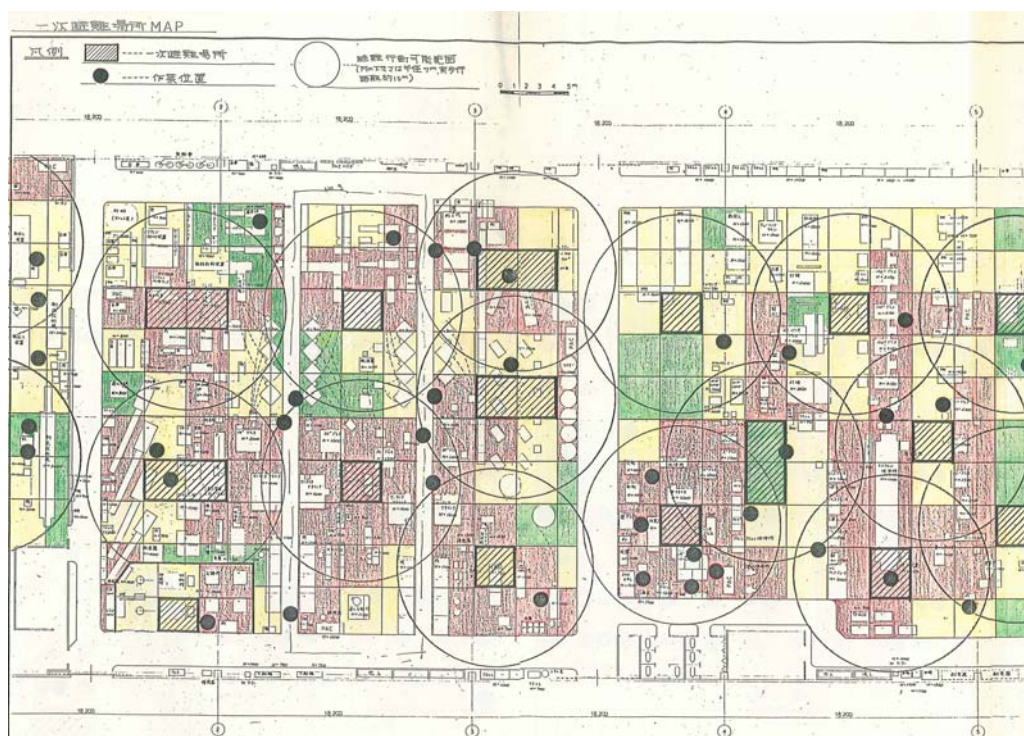


Operation & Maintenance Manual for Nagoya International Congress Center



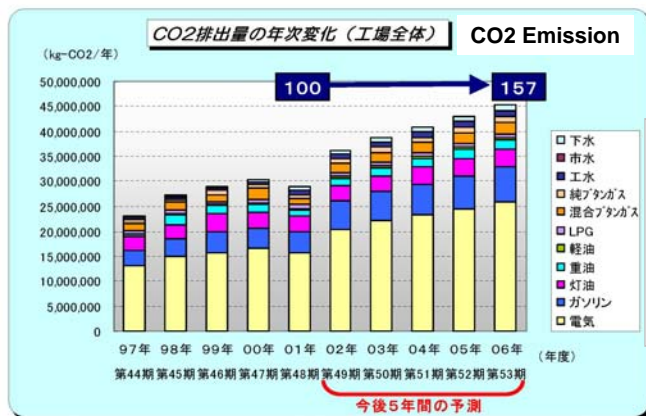
Yamaha Corporation (music) Relocation of all the Plants in Japan

Feasibility Study for Economic Rationalization



Yamaha Corporation (music) Risk Management

In Case of Earthquake, Protected Zone for Life Safety



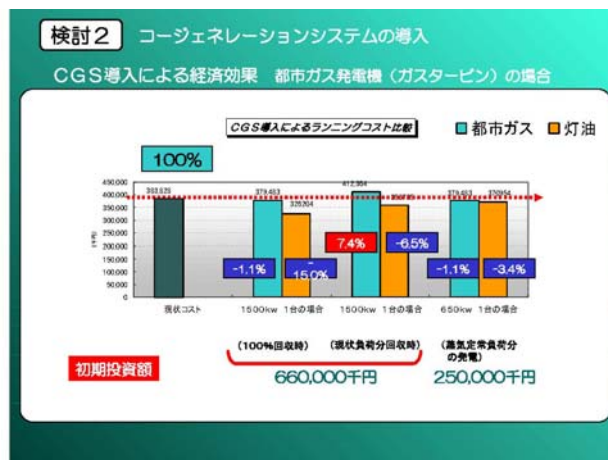
No measures

Conventional action

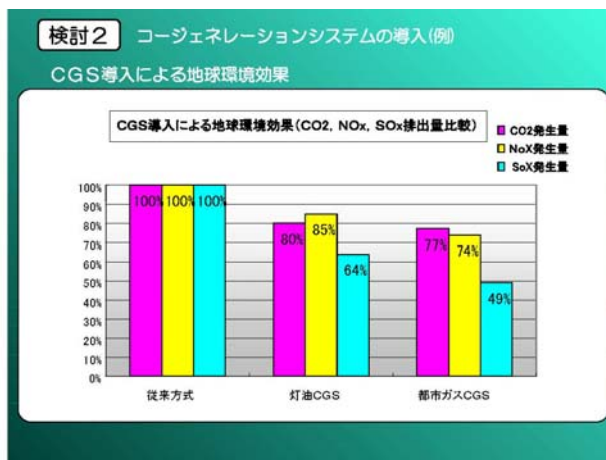
Deterioration of Electrical Systems

Yamaha Marine
Deterioration Inspection &
Evaluation for Upgrade Plan

Running Cost



CO2 Emission



Yamaha Marine
Feasibility Study of Alternative Energy (Co-Generation System)

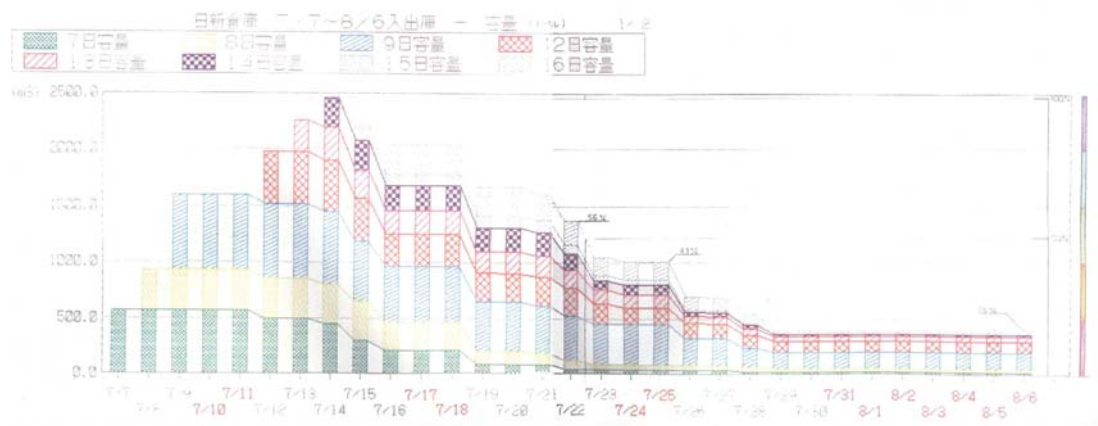


Logistics Award of the year

High Efficiency for Temporary Stock Space Usage

Ricoh Logistics System

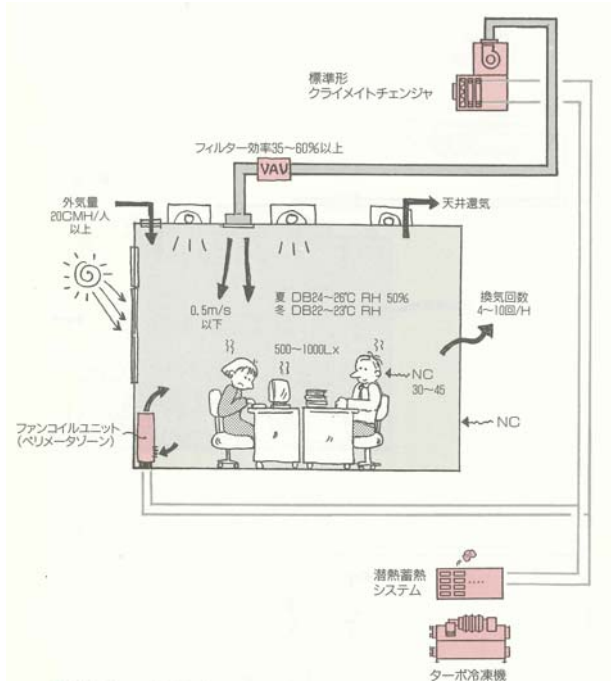
High Efficiency Storage and Logistics System of Daikoku-cho Logistics Center



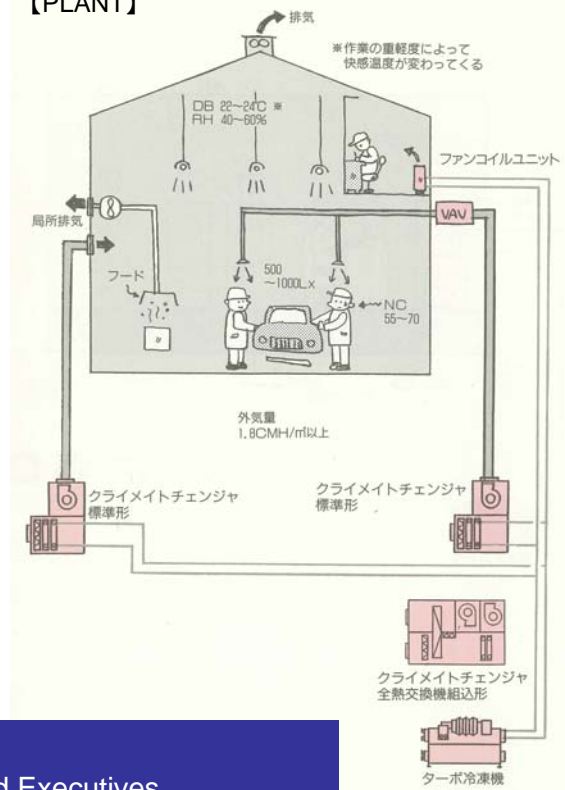
Ricoh Logistics System

High Efficiency Storage and Logistics System of Daikoku-cho Logistics Center

【OFFICE】



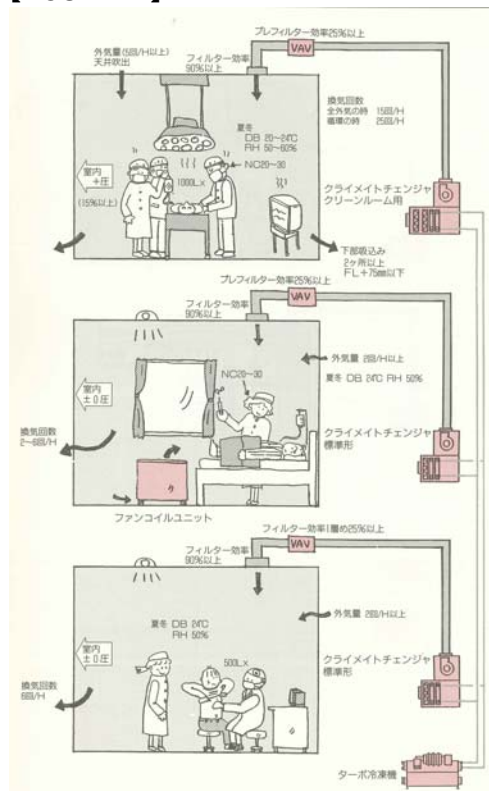
【PLANT】



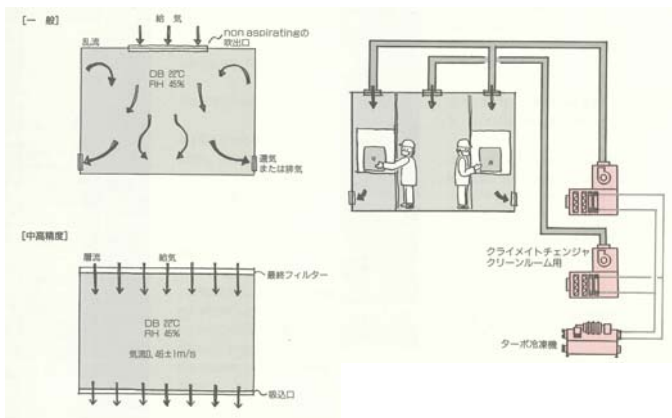
Kubota Trane

Product Catalogue for Building Owners and Executives

【HOSPITAL】

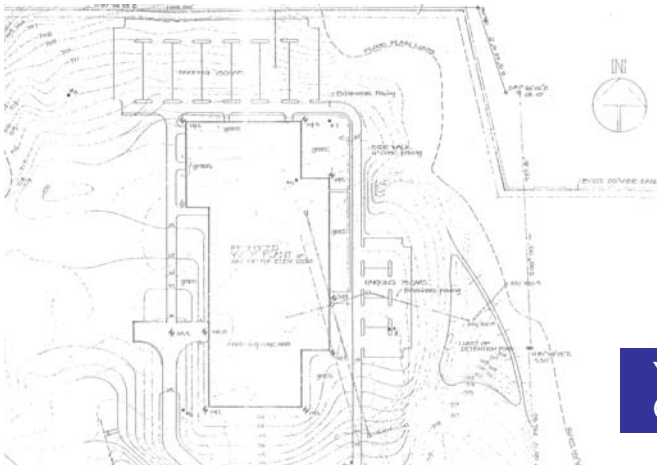


【CLEAN ROOM】

Kubota Trane
Product Catalogue for
Building Owners and Executives



Location : Grand Rapids



**YAMAHA AMERICA MUSIC PLANT,
Grand Rapids, MI, U.S.A.**



PEI Partnership (Architect)

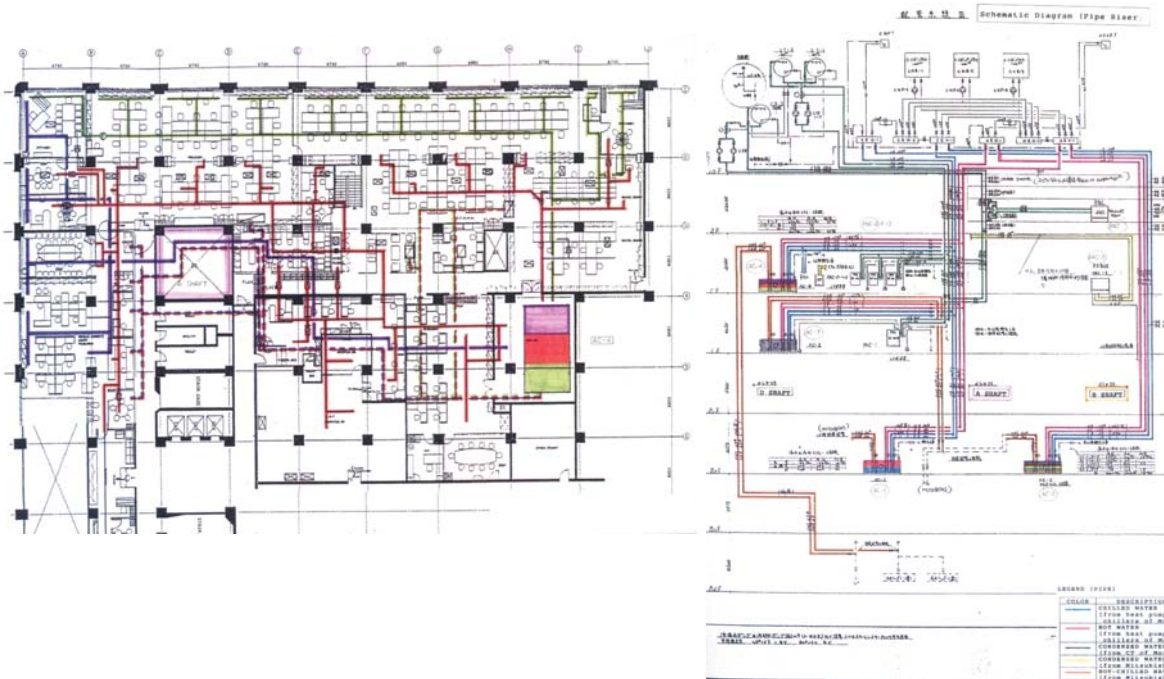
Location : Dubai

Jebel Ali Zone 1-Block 2 Mixed use buildings, Dubai, U.A.E



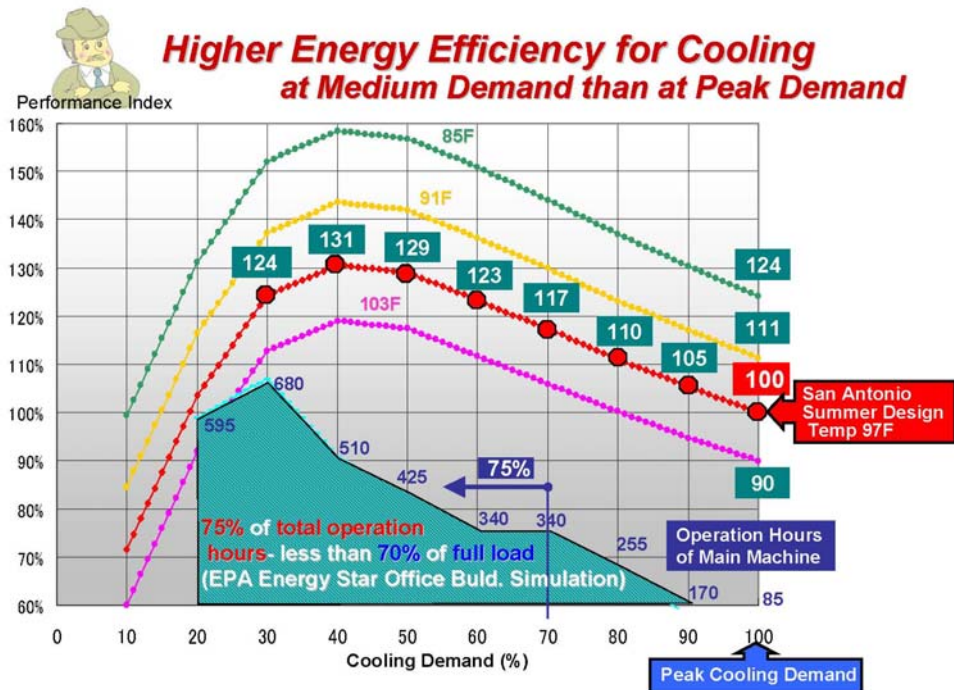
Location : Jakarta

Gudang Garam The Tower + Residential Complex, Jakarta, Indonesia



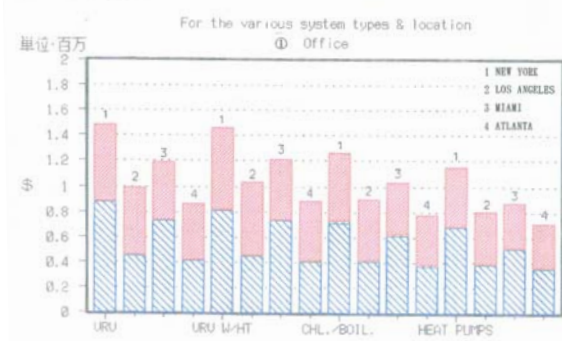
Location : Tokyo

Expansion and Renovation of Morgan Bank, Tokyo, Japan



Daikin U.S. Corporation
Variable Refrigerant Volume (VRV) System evaluation

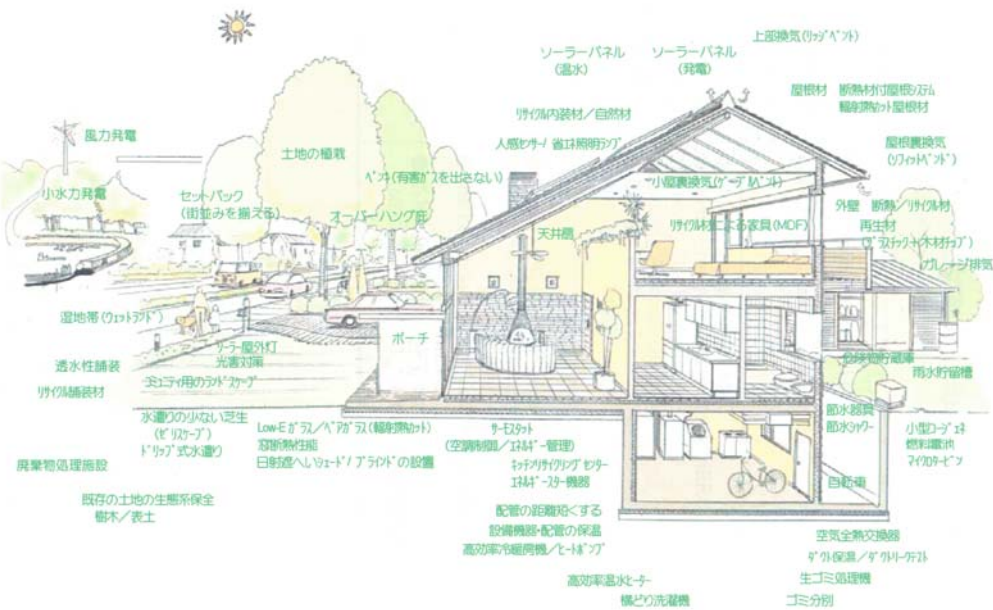
(2) ライフサイクルコスト比較グラフ (システム別、地域別)



Daikin U.S. Corporation
Marketing & Cost Study marketing study, U.S.A.

Green Home Development

グリーン住宅・グリーンコミュニティ のイメージ



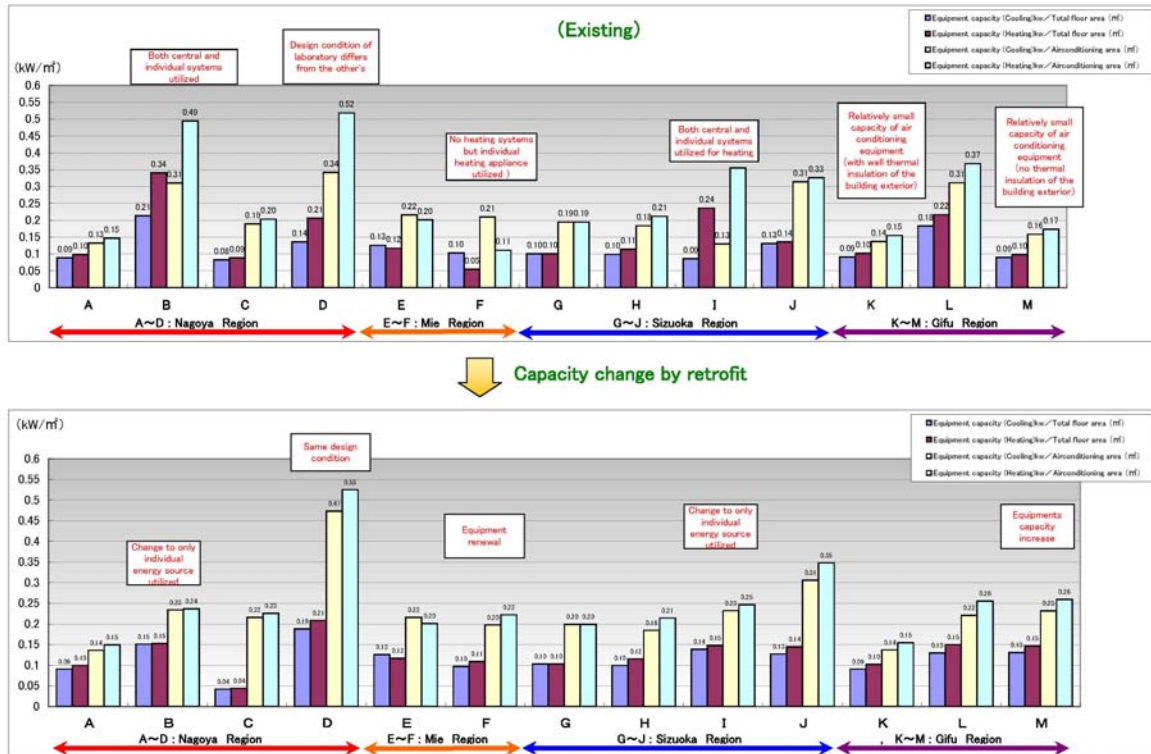
Toyota Motor Corporation
Study and Research for Toyota Housing Project, U.S.A.



Location : Chonburi

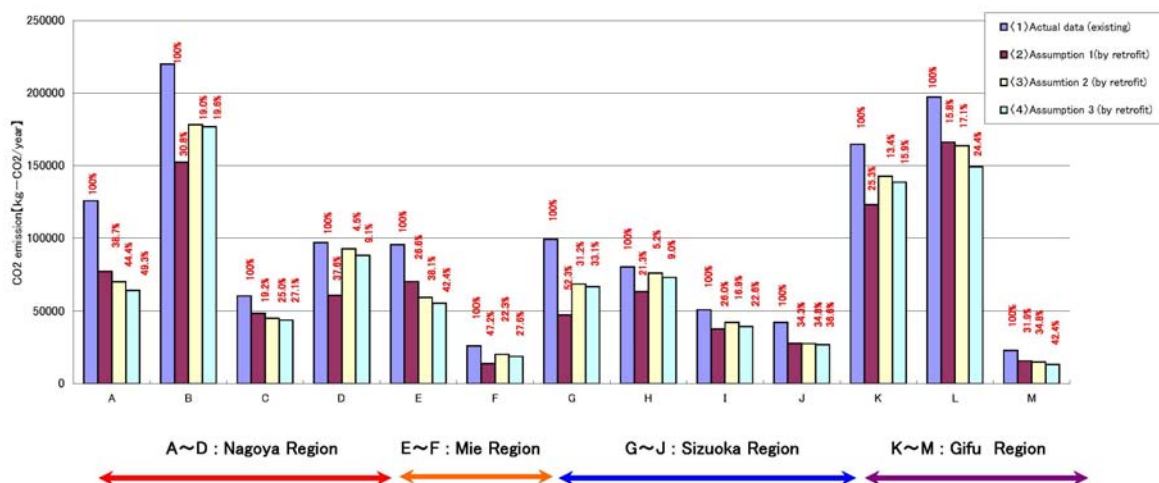
Environmental Consultation for Chonburi New Plant, Thailand

③ Air conditioning equipment capacity (existing) — Air conditioning equipment capacity change (by retrofit)



② Assumption of CO2 emission reduction by retrofit

[rate and amount kg-CO2/year]



- (1) Actual data (existing) : Mean value of energy consumption recorded for the last three years (adapted to GBES)
 (2) Assumption 1 (by retrofit) : Amount of energy consumption assumed (adapted to GBES)
 (3) Assumption 2 (by retrofit) : Amount of energy consumption assumed (adapted to retrofit effect format [energy cost & CO2 emission] by Government)
 (4) Assumption 3 (by retrofit) : Amount of energy consumption assumed with architectural features (adapted to retrofit effect format [energy cost & CO2 emission] by Government)