5-Year Energy-Saving Initiative at 278 Pachinko Chain Parlors

– From Awareness Raising to Capital Investment –

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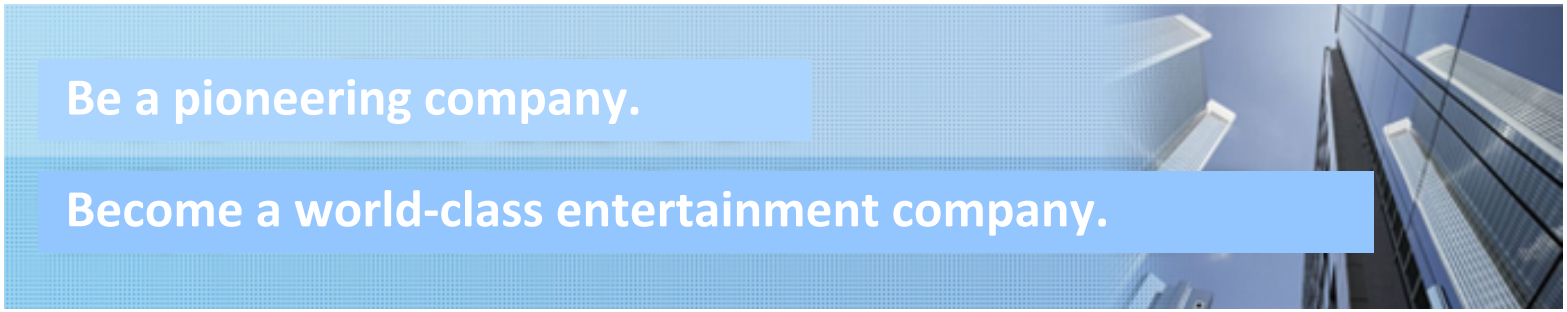
Maruhan Corporation

Contents

1. Company Outline

Company Name:	Maruhan Corporation
Business Lines:	Operation and management of entertainment facilities (e.g. pachinko parlors, bowling alleys, golf ranges, cinemas) and other leisure-related businesses
Number of employees:	12,427
Average age:	30.2
Number of stores:	278 pachinko parlors 12 leisure & amusement facilities

Corporate Brand Image



(As of May 2012)

2. At the Outset

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Past Initiatives

"Reckless Efforts" "Orders/Instructions"
⇒Did not last long

1. Trend of the Times

- Apr. 2010: Enforcement of Revised Act on the Rational Use of Energy ⇒ Maruhan became subject to the Law.
- Apr. 2010: Enforcement of Passive Smoking Prevention Ordinance

2. Change the Pachinko Industry

- 1992: Top message – "Change the Industry." Top-class hospitality project started.
- 2007: Launched environmental improvement efforts under the theme of "Creation of comfortable hall space"

Maruhan to become the pioneer of energy saving activities in the Pachinko industry!

3. Energy Management System

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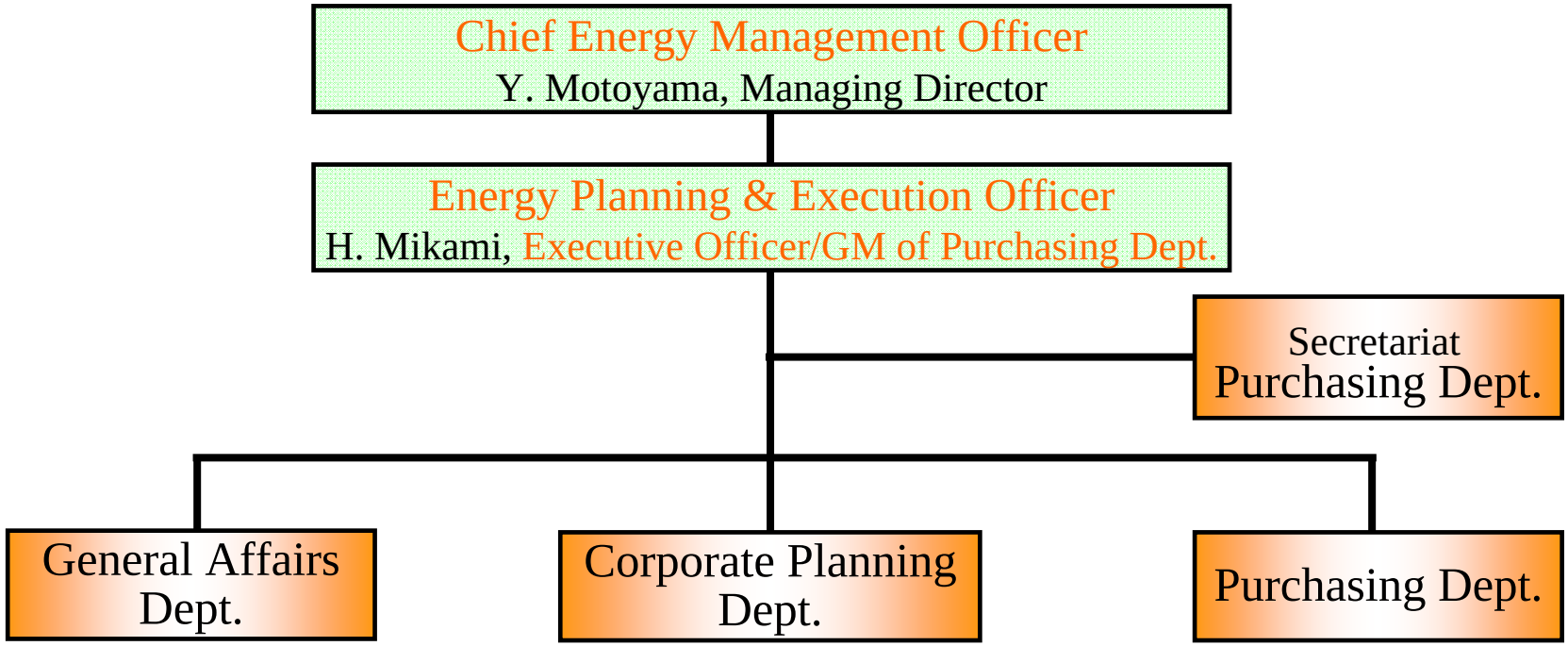
Energy Conservation Committee



- In Apr. 2010, Act on the Rational Use of Energy was revised and Maruhan became subject to the Law:

(1) Compliance with the Revised Act on the Rational Use of Energy
(2) Company-wide energy saving & awareness raising initiative
(3) CSR promotion & PR activities

4. Results of the Five Years

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Changes in the Company's Total Energy Consumption

		Stores	Electricity Consumption (1,000 kWh)	Oil Equivalent (KL)	Unit Consumption (KL/m^2)	Reduction % (Y-o-Y)	Floor Area (m^2)
	2007	211	359,523	95,788	0.191	-	499,380
Energy Saving Initiative	2008	229	402,898	109,941	0.202	5.7%	541,981
	2009	245	394,363	103,012	0.177	- 12.3%	579,849
	2010	258	381,960	99,672	0.164	- 7.3%	609,931
	2011	268	393,302	102,382	0.158	- 3.6%	647,618
	2012 (Apr.-Aug.)	278	-	-	-	-	671,783

- In 2009, the energy saving initiative was launched at all stores.
- While the number of stores increased, the energy consumption has not increased since 2008.

5. Success Factors of the Energy-Saving Initiative

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Success Factors

1	Vision Setting: 5-Year Plan & Role Sharing between HQ and Stores
2	Employee Awareness Raising through Electricity "Visualization"
3	Sharing of Energy-Saving Best Practices
4	Capital Investment with Rigorous PDCA
5	Spirit of the Challenge: Team Maruhan

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6. Vision Setting: 5-Year Plan & Role Sharing between HQ and Stores

Industry Target	2008	2009	2010	2011	2012	2013
211 pachinko parlors						-1.0% (YoY, unit consumption)
vs. 2007: Goal	- 3%	- 6%	- 9%	- 12%	- 15%	Unit Consumption: kWh/㎡
vs. 2007: Actual	—	- 7.1%	- 8.6%	- 14.5%		

Stores

▼Step 1: (2008 -)

Energy saving in the hall:
- Employee awareness raising thru electricity visualization

Headquarters

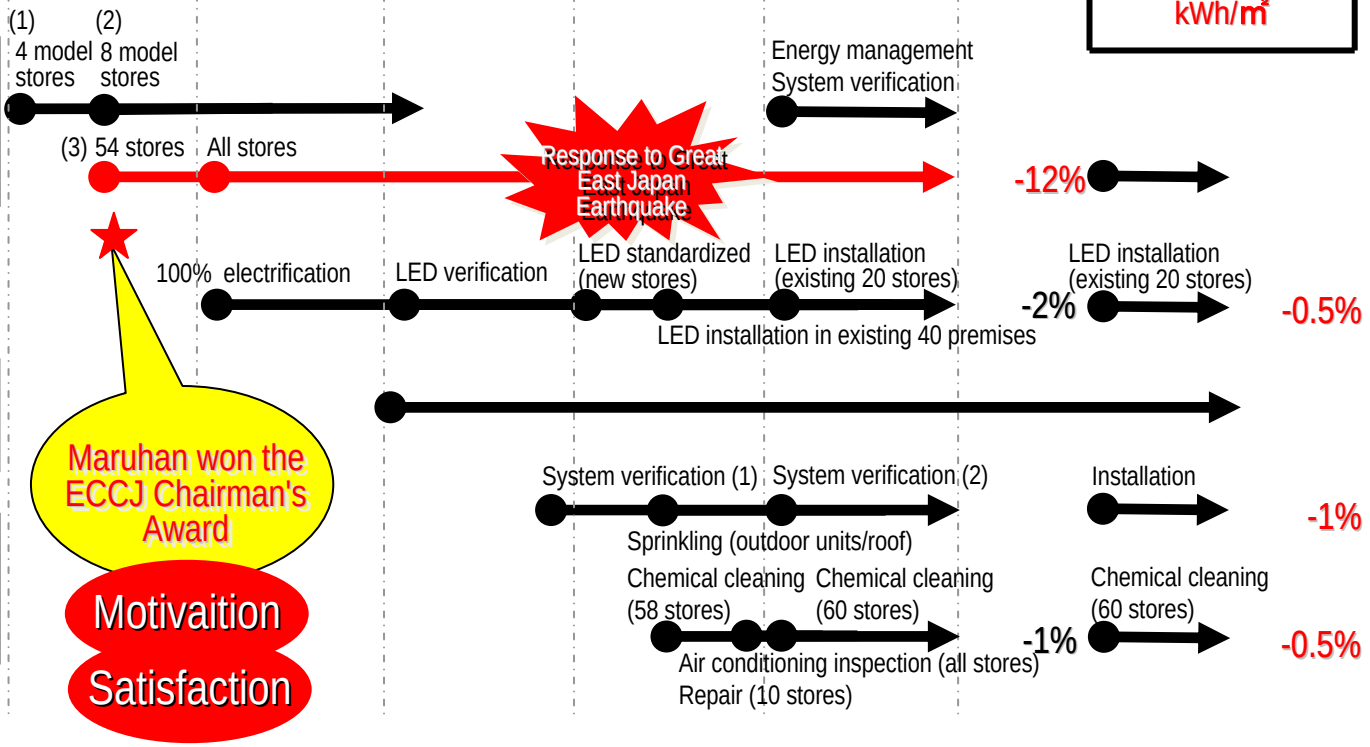
▼Step 2: (2010 -)

Capital investments in small-sized facilities:
- LED, 100% electrification

Launch of the Energy Conservation Committee:
- Compliance with Act on the Rational Use of Energy

▼Step 3: (2012 -)

Capital investments in medium-sized facilities:
- Ventilation control, sprinkler system
- Maintenance



- Having a clear vision (5 years later) was the key to implement the energy-saving initiative as planned.
- We started from the employee awareness raising to build a foundation of the energy saving initiative.

Success Factor (2)

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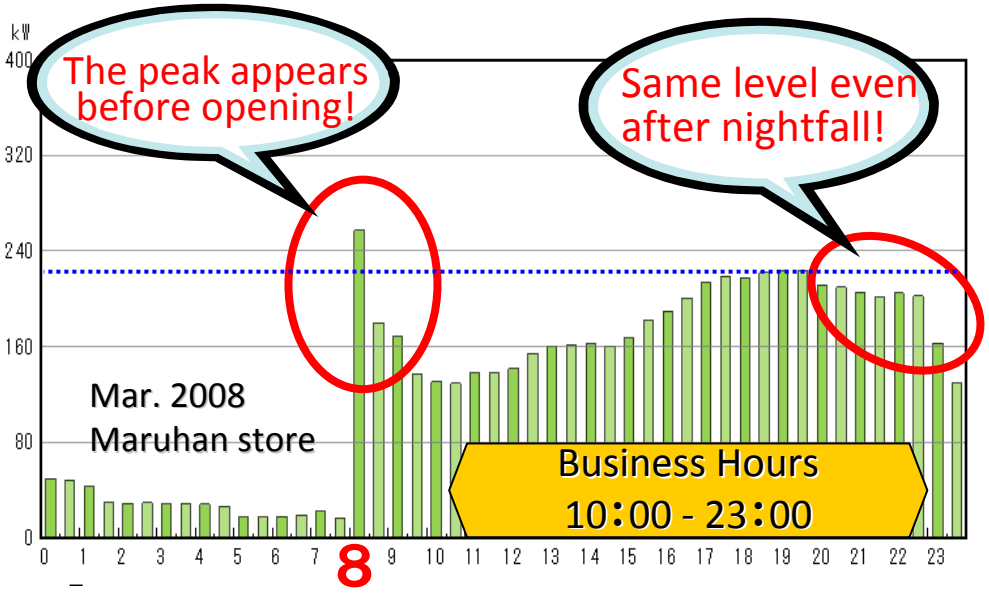
7. Employee Awareness Raising through Electricity "Visualization" (1)

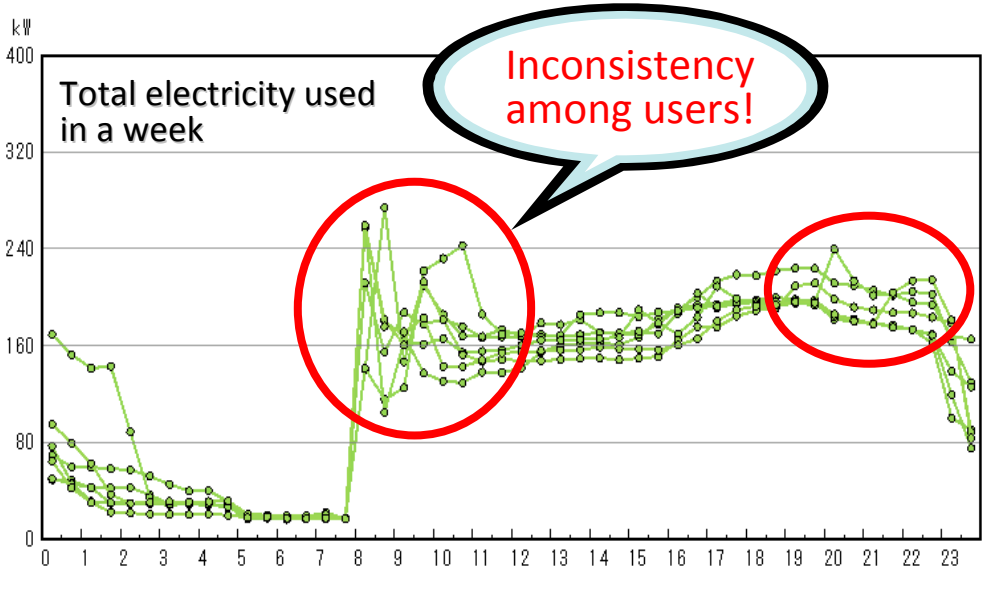
Before the visualization

Stores use electricity 100% for customers! There is no waste!

Wasted Electricity



Inconsistent Electricity



Success Factor (2)

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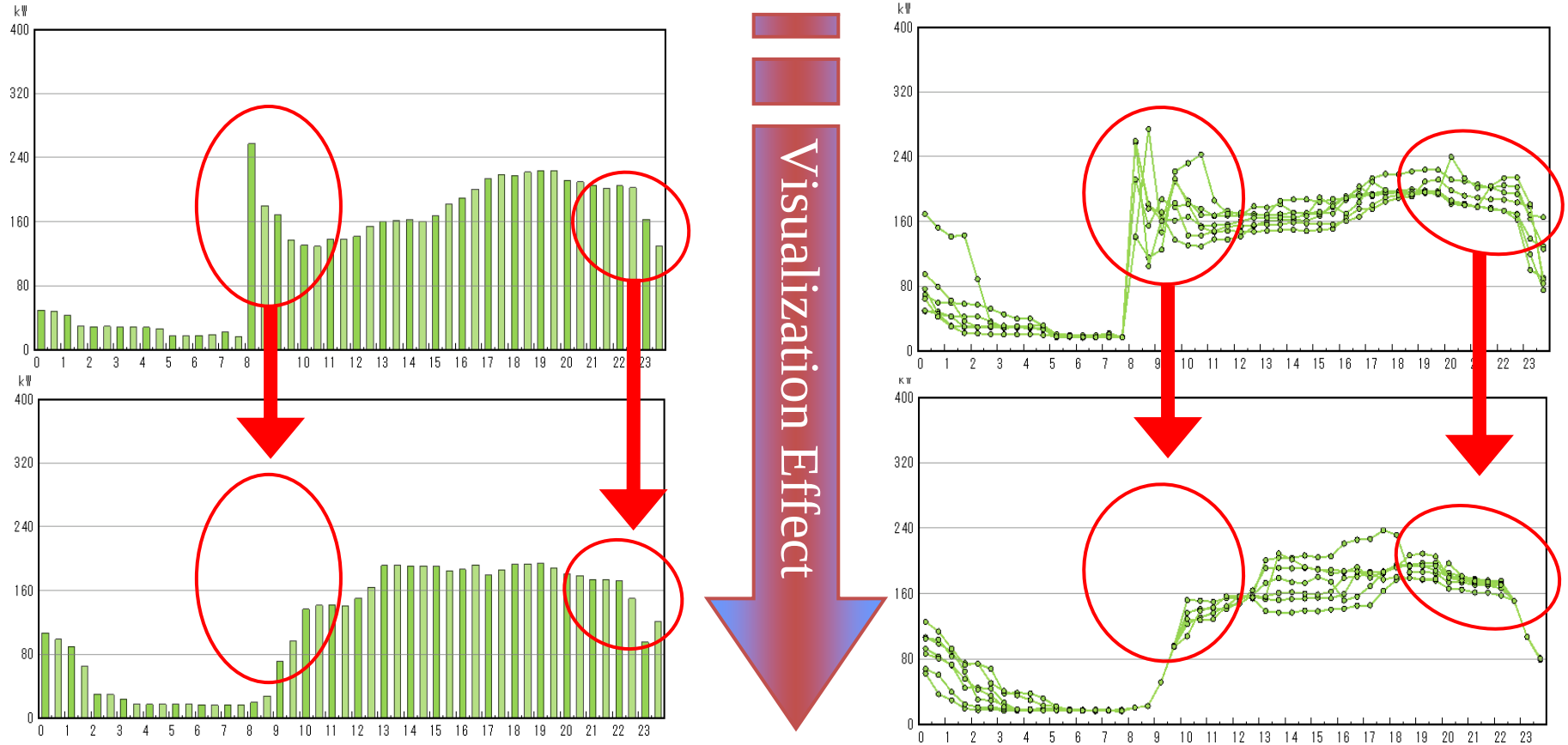
7. Employee Awareness Raising through Electricity "Visualization" (2)

After the visualization

Change of awareness (no wastes/inconsistencies) saved energy by 10%!



Success Factor (2)

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7. Employee Awareness Raising through Electricity "Visualization" (3)

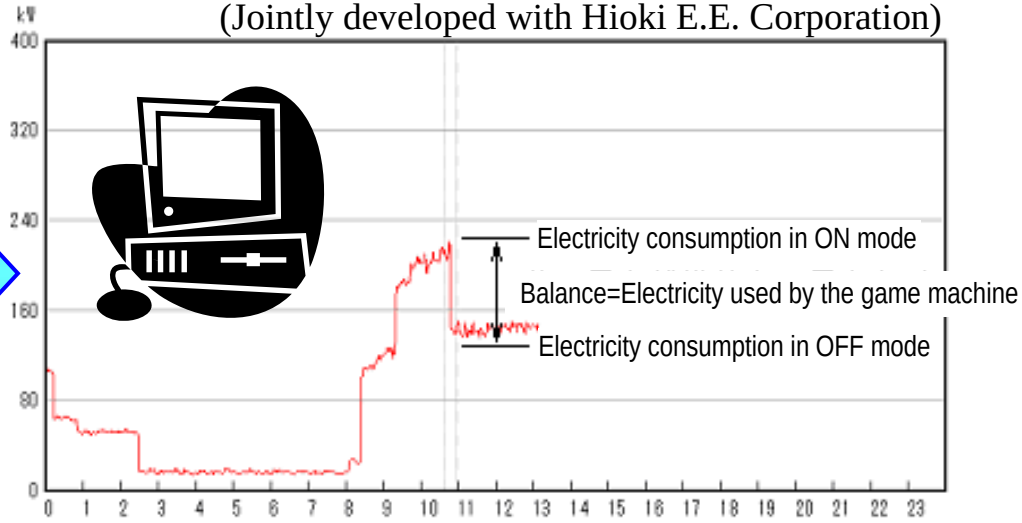
Toward Further Visualization

An Electricity Measuring Function was added to the demand monitoring system.
This enabled employees with no technical knowledge to measure electricity consumption per single unit of facilities.

Turning on & off of facilities

Measurement

(Jointly developed with Hioki E.E. Corporation)



Example) If pachinko machines are turned on 30 minutes later,

Saving of 6,400 kWh/year (Saving of electricity cost by ¥100,000/year)

- Visible effects increase the sense of satisfaction!
  This makes efforts more enjoyable!

Success Factor (3)

8. Sharing of Energy-Saving Best Practices (1)

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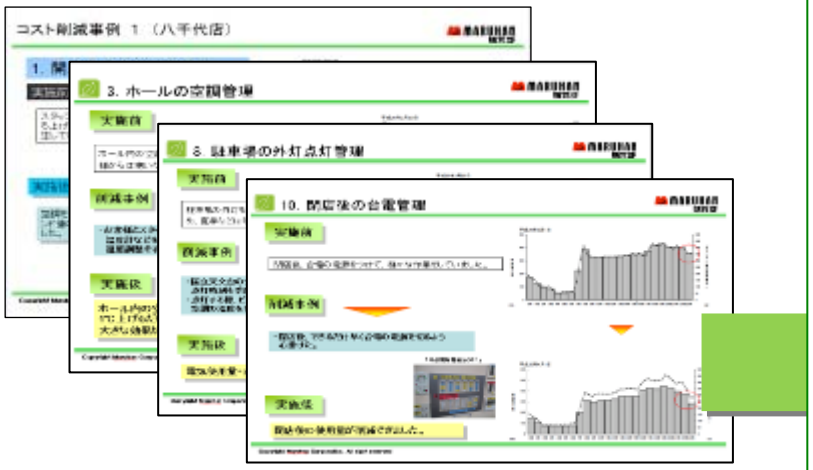
Nationwide eco-management standard "ECO7"

The most eco-effective efforts were selected from best practices established by model stores and compiled into a manual. All stores were required to adhere to the manual.

Start	**Apr. 2009**
Result	**-7.1%**



1. ECO 7

MARUHAN Purchasing Dept.

ECO-Activity Priorities【ECO 7】

(1) Participate in the eco-activities. (Sharing of aims)
(2) Install a thermometer in the hall to keep the temperature at 26 ºC
(3) In the morning, switch on the air conditioners at a rate of 1 unit per 30 minutes.
(4) Do not switch on the lights and air conditioners if they are not necessary for the work.
(5) Display the switching off /on schedules and procedures.
(6) Make the best use of outside air.
(7) Switch off any unnecessary electrical equipment immediately after closing.

Success Factor (3)

8. Sharing of Energy-Saving Best Practices (2)

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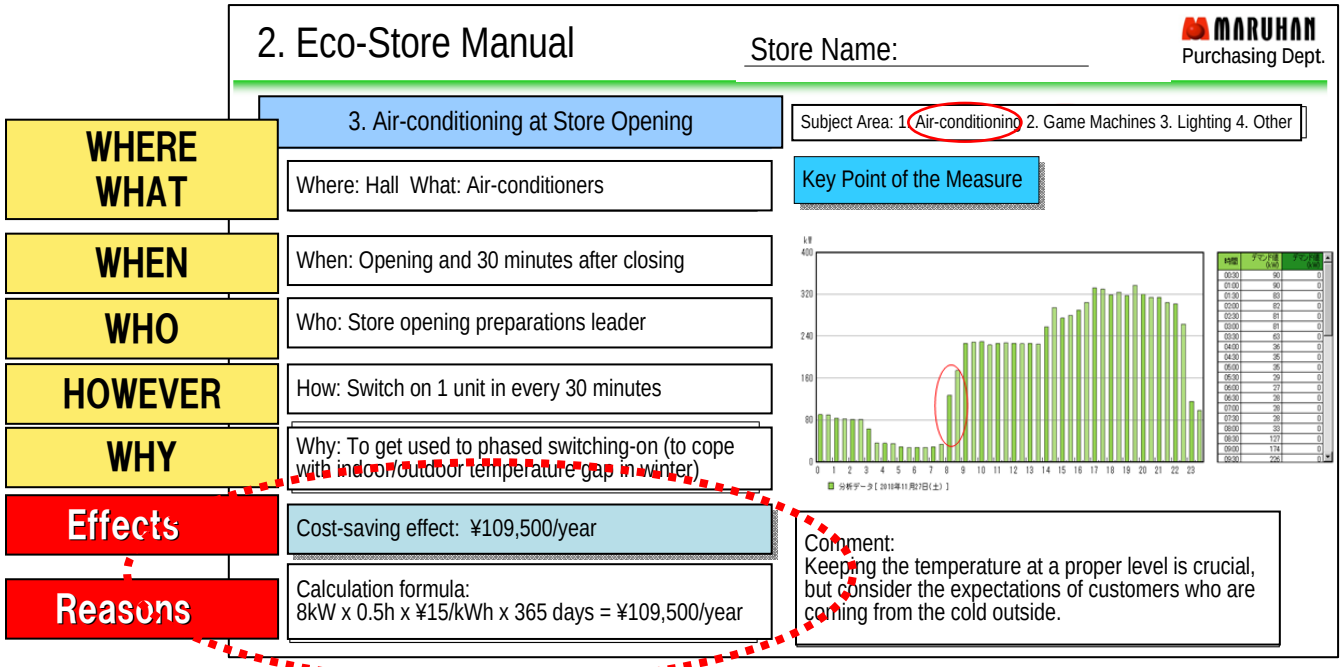
Store-Based Eco-Management Standard "ECO-Store Manual"

Start	**Apr. 2010**	Result	**-8.6%**

ECO 7 is not flexible enough to handle situations specific to each store (geographical differences, store size, different versions of facilities) and not suitable for handover due to frequent personnel transfers.

⇒278 versions of the eco-management standard were developed for each of the 278 stores.



Success Factor (3)

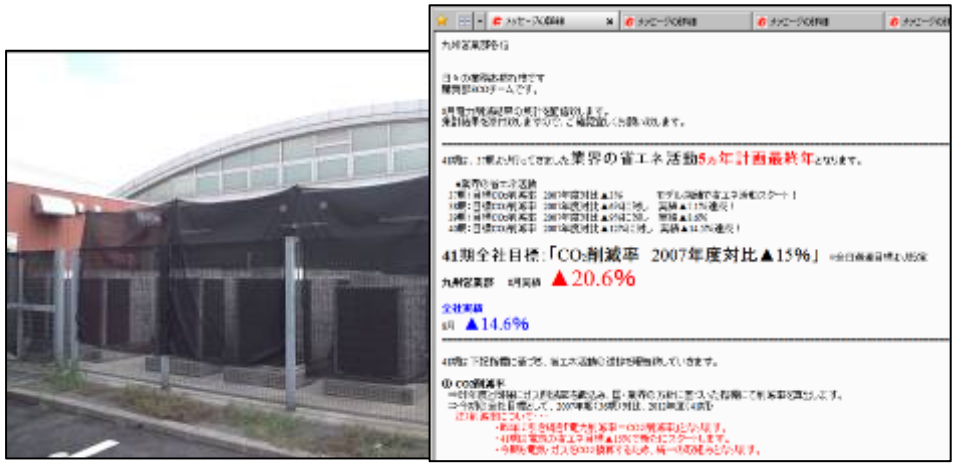
8. Sharing of Energy-Saving Best Practices (3)

Internal Awareness Raising and Employee Education

●Use of Corporate Intranet

1. Results of CO_2 reduction efforts
2. Best practices
3. Energy-saving initiative topics

were delivered monthly to share information.



■ Study Sessions

1. 2010: Study sessions were held at 6 locations nationwide covering all stores.
2. 2011 and thereafter: Study sessions were held for newly assigned managers.

⇒ Energy saving skill was made mandatory for all store managers.

The study sessions were attended by more than 800 employees by the end of July 2012, developing a scheme to be brought back to each store.

Success Factor (4)

9. Capital Investment with Rigorous PDCA (1)

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Model Stores with Energy Saving Facilities

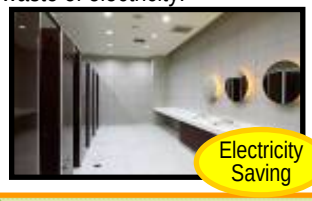
1. Lighting: 100% LED
- Switch all lights to LED to save electricity and reduce the need to change bulbs in high places.

Electricity Saving

2. Game Machine Lamps: 50% Cut in Electricity Use
- Use energy-saving number lamps to cut electricity (50% of existing types).

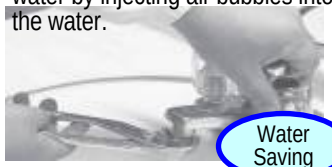
Electricity Saving

3. Rest Room: Sensor Lighting
- Use sensor lighting to reduce waste of electricity.



Electricity Saving

4. Faucets: Water-Saving Device
- The device saves water without changing the physical feeling of water by injecting air bubbles into the water.

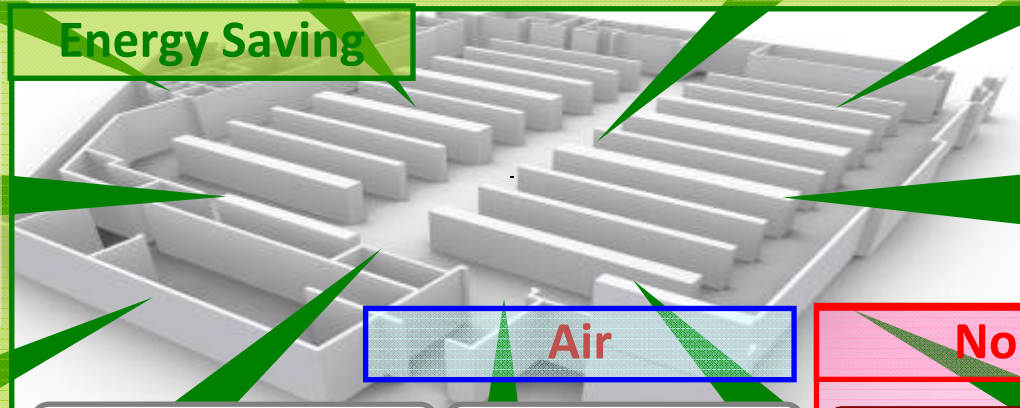


Water Saving

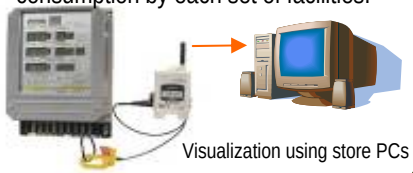
5. Rest Room: Water-Saving Toilets
- New-types of toilets were used to save water (61% of existing types).

Water Saving

Energy Saving



6. Measuring Machine: Demand Monitoring Machine
- Visualize and measure electricity consumption by each set of facilities.



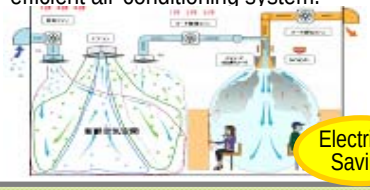
Visualization using store PCs

Counting Machine: Smart System for All Game Machines
- Improve the labor environment.
- Eliminate the noise when exchanging pachinko balls.

Counting device installed in each machine

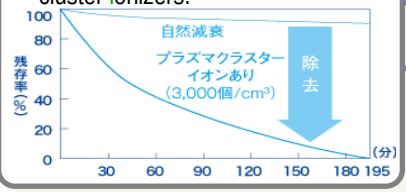
Air

7. A/C System: Air Designer
- Ensure ventilation, temperature control, and energy saving by using the highly-efficient air-conditioning system.



Electricity Saving

8. Air: Plasma Cluster
- Remove airborne bacteria and cigarette smell by installing plasma cluster ionizers.



9. Smoking Area: Complete Separation
- 100% separation of smoking/non-smoking areas (Maruhan Akishima)

Noise/Labor Load

10. Smoking Partition
- Install partition boards between game machines to 1) block smoke and 2) reduce noise. (Maruhan Iruma)

11. Ball Supplying Machine: Noise Reduction
- Reduce noise by using low-noise machines.

85 dBA or less

Success Factor (4)

9. Capital Investment with Strict PDCA (2)

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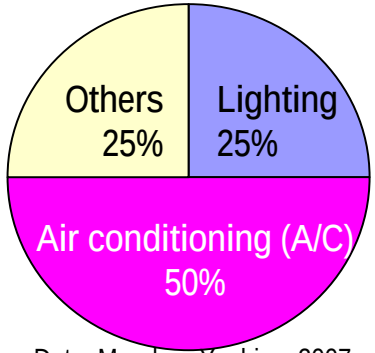
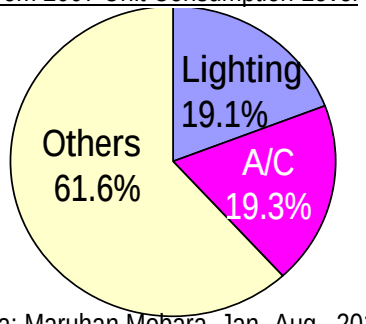
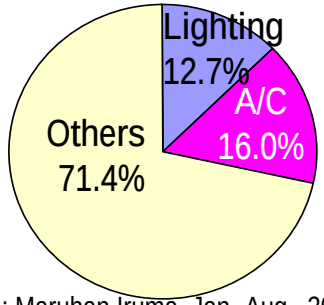
Changes in the Breakdown of Electricity Consumption

	Up to FY2007	FY2010	FY2010 Eco-Model
Breakdown of Electricity Consumption	 Data: Maruhan Yachiyo, 2007	-25.4% from 2007 Unit Consumption Level  Data: Maruhan Mobara, Jan.-Aug., 2011	-32.4% from 2007 Unit Consumption Level  Data: Maruhan Iruma, Jan.-Aug., 2011
Unit Consumption	1,000 kWh/㎡ per year	746kWh/㎡ per year	676kWh/㎡ per year
Electricity Saving	—	•Awareness raising thru visualization ⇒Electricity-saving efforts focused on air conditioning	•Energy-saving led by G.O. ⇒Motivated all employees to make energy-saving efforts spontaneously
Lighting	•Old-type high-power mercury lamps ⇒Low luminous efficiency	•Use of ceramic metal halide lamps ⇒Improved mercury lamp luminous efficiency	•100% use of LED lights ⇒Improved luminous efficiency & useful life
Air Conditioning	•Machine room chamber system ⇒Problems with the airtightness •No-roof structure ⇒Susceptible to outside temperature	•Use of the chamber-box system ⇒Improved ventilation efficiency •Standardization of hall ceilings ⇒Improved heat-insulation effect	•Use of the ventilation control system ⇒Reduced ventilation loss ⇒Active use of outside air

Success Factor (5)

10. Spirit of the Challenge: Team Maruhan

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Employee Awareness Raising

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Capital Investment

	Stores	Saving Effect	Initial Amount	Running Cost	Cost-Effectiveness
1. Switching hall lights to LED	77	- 6.8% (peak)	¥541M (¥703M/store)	- ¥216M/year	2.5 yrs
2. Sprinkler system for outdoor units	19	- 8.8% (peak)	¥22M (¥116M/store)	- ¥12M/year	1.8 yrs
3. Chemical cleaning of outdoor units	119	- 3.0% (electricity)	¥37M (¥31M/store)	- ¥26M/year	1.4 yrs

(Actual results for 2011–2012)

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Spirit of the Challenge: Team Maruhan

We are currently:

1. Studying the possibility of installing a ventilation control system;
2. Studying the possibility of installing a rooftop solar power generation system;
3. Planning to install a rainwater storage & sprinkler system;
4. Studying the possibility of installing a geo-heat system;
5. Developing energy-saving facilities jointly with a manufacturing company; and
6. Developing an energy-management system.

11. Summer 2011: As the Industry Leader

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・In summer 2011, the electricity-saving measures developed and implemented by Maruhan led the industry association.
・Maruhan promoted the electricity-saving measures in cooperation with a soft-drink vending-machine manufacturer.

[Maruhan's Electricity-Saving Measures for Summer Season]

Area	Energy-Saving Measures	Target %
Time	1. Introduce a 3-times-a-month rotating holiday system (weekdays)	-25
A/C	2. Set the air conditioner temperature 2ºC higher than usual.	
A/C	3. Carry out chemical cleaning of air conditioner outdoor units.	
Others	4. Turn off vending machine lights 24 hours a day.	
Lighting	1. Switch lights to LED (when replacing aged lights).	-10
Lighting	2. Turn off (part of) external wall lights.	
Lighting	3. Turn off (part of) neon lights, signs, and electric bulletin boards.	
Lighting	4. Turn off (part of) indirect lights in the hall.	
A/C	5. Introduce a sprinkler system for outdoor units and use it during peak electricity-demand hours (when replacing aged units).	
	Total Saving %	-35
	Actual Saving %	-33

[Industry Association's Electricity-Saving Measures for Summer Season]

Power-Saving Action Plan

Company Name: _____
Person in Charge: _____

To avoid a power outage, we are planning to reduce the electricity consumption by 25% during the peak demand hours for the 3 months from July through September 2011. We are sorry for causing inconveninence to our customers.

1. We are determined to take the following 6 basic actions.		% of total saving
Lighting	Turn off external wall lights 24 hours a day.	1.0%
Lighting	Turn off (part of) neon lights, signs, and electric bulletin boards.	1.5%
Lighting	Turn off (part of) indirect lights in the hall.	1.0%
Lighting	Turn off vending machine lights 24 hours a day.	0.3%
Lighting	Turn off 50% or more lights in the hall.	4.2%
A/C	Set the air conditioner temperature 2ºC higher than usual.	5.0%

2. We will implement the rotating holiday system in ccmpliance with the industry rule.		% of total saving
Holidays	Multiple pachinko hall operators will take turn to close their parlars located in TEPCO's service area. (Rotating holidays of 3 weekdays a month will reduce 15%, 4 weekdays will reduce 20% of electricity consumption.)	15.0%

3. We will take the following actions that will have a higher electricity-saving effect.		% of total saving
Lighting	Introduction of LED lights	%
A/C	Use of heat-insulating paint, insulation materials/films	%
A/C	Cleaning of air conditioners (filters and outdoor unit fins)	%
Others	Shortening of the hours during which vending machines are kept refrigerated	%

12. Closing

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There is no miraculous solution in energy-saving activities.

Energy-saving activities will never end.

The key is to make small improvements step by step.

- **Act on the Rational Use of Energy was enforced in 1979 in the aftermath of the oil crisis in 1973. Until now, Japan's energy-saving initiatives have been led by the automobile, electronics, and other heavy industries and their factories.**
- **From now on, we, the service industry in the civilian sector, will contribute to Japanese society by reducing wastes and inconsistencies and implementing "genuinely motivating" awareness-raising and operational improvement activities.**

Thank you for your attention.

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