<table>
<thead>
<tr>
<th>Country</th>
<th>Company</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Mitsubishi Elevator Hong Kong Co., Ltd.</td>
<td>TEL 852-2788-1500, Fax 852-2789-2380, Unit 19, 27th Jawa Road, North Point, Hong Kong</td>
</tr>
<tr>
<td>Korea</td>
<td>Mitsubishi Elevator Co., Ltd.</td>
<td>TEL 82-33-787-1000, Fax 82-33-787-1100, 4th Floor, Korea World Trade Center, Gangnam, Seoul, Korea</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Hyundai Elevator Sdn. Bhd.</td>
<td>TEL 60-3-785-1500, Fax 60-3-786-7177, No. 70, Jalan Persekutuan, Taman OUG, 59000 Kuala Lumpur, Malaysia</td>
</tr>
<tr>
<td>Singapore</td>
<td>Mitsubishi Elevator (Singapore) Pte. Ltd.</td>
<td>TEL 65-6334-4200, Fax 65-6334-4201, Mitsubishi Tower, 80 Anson Road, #09-03, Singapore 079903</td>
</tr>
<tr>
<td>Thailand</td>
<td>Mitsubishi-Jice Elevator Co., Ltd.</td>
<td>TEL 66-2-687-0500, Fax 66-2-687-0501, 345-347, 34th Floor, MBK Plaza South, Sukhumvit Soi 15, Wattana District, Bangkok 10110, Thailand</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Ha Noi Elevator Vietnam Co., Ltd.</td>
<td>TEL 84-4-786-8635, Fax 84-4-786-8636, 80C Nhat Tan, Cau Giay, Ha Noi, Vietnam</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Metec Engineering Co., Ltd.</td>
<td>TEL 855-25-250-250, Fax 855-25-250-251, 201, St. 316, near Wat Phnom, Wat Bo, Phnom Penh, Cambodia</td>
</tr>
<tr>
<td>Laos</td>
<td>Mitsubishi Elevator &amp; Escalator</td>
<td>TEL 85-21-5129351, Fax 85-21-5129352, 550, 12th Floor, 12th Block, Rama 3, Sathorn, Bangkok, Thailand</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>ESI MILCO Elevator Co., Ltd.</td>
<td>TEL 94-11-2551222, Fax 94-11-2551223, No. 19, Colombo 04, Kataragamawila, Colombo, Sri Lanka</td>
</tr>
<tr>
<td>Mauritius</td>
<td>Mitsubishi-Jice Elevator Co. Ltd.</td>
<td>TEL 232-44-606-606, Fax 232-44-606-607, 19th Floor, 7th Street, Commercial Building, Grand Bay, Mauritius</td>
</tr>
<tr>
<td>Ukraine</td>
<td>UAA</td>
<td>TEL 38-044-224-7112, Fax 38-044-224-7113, Blvd. Ruska, 19, Kiev, Ukraine</td>
</tr>
<tr>
<td>Germany</td>
<td>Electronic Technical Accessories</td>
<td>TEL 49-89-3420-780, Fax 49-89-3420-781, Postfach 102995, 80440 Munich, Germany</td>
</tr>
<tr>
<td>Oman</td>
<td>OHK</td>
<td>TEL 9686-24222, Fax 9686-24221, 16th Floor, Oman Plaza, P.O. Box 442, Muscat, Oman</td>
</tr>
<tr>
<td>Turkey</td>
<td>Daikin Air Conditioning Ltd.</td>
<td>TEL 90-212-253-253, Fax 90-212-253-254, 3443, Kabacek, 34430, Istanbul, Turkey</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Ecotex Elevator Ltd.</td>
<td>TEL 357-222-322, Fax 357-222-323, 28A, Yiannitsis Street, 8038, Limassol, Cyprus</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Sintef-Technical &amp; Mechanical Services Co. Ltd.</td>
<td>TEL 41-61-224-224, Fax 41-61-224-225, P.O. Box 123, Baden, Switzerland</td>
</tr>
<tr>
<td>Argentina</td>
<td>Mitsubishi Elevator Argentina</td>
<td>TEL 54-11-4022-222, Fax 54-11-4022-223, P.O. Box 224, Buenos Aires, Argentina</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Mitsubishi Elevator Europe B.V.</td>
<td>TEL 31-0-46-222-2200, Fax 31-0-46-222-2201, P.O. Box 224, 3400 AG Alphen aan den Rijn, The Netherlands</td>
</tr>
<tr>
<td>Brazil</td>
<td>Mitsubishi Elevator Brazil</td>
<td>TEL 55-11-2222-2222, Fax 55-11-2222-2223, P.O. Box 4444, 01013-000, São Paulo, Brazil</td>
</tr>
<tr>
<td>France</td>
<td>Mitsubishi Electric France</td>
<td>TEL 33-1-4141-4142, Fax 33-1-4141-4143, P.O. Box 777, 77777, Courbevoie, France</td>
</tr>
<tr>
<td>Spain</td>
<td>Mitsubishi Elevator España, S.A.</td>
<td>TEL 34-91-451-4514, Fax 34-91-451-4515, Calle de la Plata, 41, 28020, Madrid, Spain</td>
</tr>
<tr>
<td>Germany</td>
<td>Mitsubishi Elevator GmbH</td>
<td>TEL 49-241-881-1, Fax 49-241-881-2, P.O. Box 1234, 44444 Mülheim an der Ruhr, Germany</td>
</tr>
<tr>
<td>Ireland</td>
<td>Mitsubishi Elevator Ireland</td>
<td>TEL 353-1-436-136, Fax 353-1-436-137, 123, 123, 123, 123, 123, Ireland</td>
</tr>
</tbody>
</table>

This catalogue is made of recycled paper.
Environmental Issues and Global Approaches

● What is happening to the environment?
These are only a few examples of observed impacts of climate change around the world. We must proactively work together to stop global warming in order to protect our beautiful Earth for posterity.

![Dried-up pond due to lack of rainfall](image)
Agriculture in the Sahel region, without the widespread use of irrigation systems, farm equipment or chemical fertilizers, is dependent on rainfall.

![Retreating A1010 Glacier in the Himalayas of East Nepal](image)

![Majuro Atoll in the Marshall Islands](image)
Some coral islands are in danger of submersion by rising sea levels due to global warming.

![Collapse of Perito Moreno Glacier in the Andes of Argentina](image)

● Assessment
Throughout the world, a variety of assessment systems for green buildings have been established to promote the better environmental performance of buildings.

**USA (LEED)**
[Certification levels: Certified, Silver, Gold, Platinum]
Leadership in Energy and Environmental Design (LEED) is a rating system developed by the U.S. Green Building Council (USGBC) to evaluate the environmental performance of buildings and sites. It is adopted not only in the U.S., but also used in many other countries for real-estate appraisal.

**Germany (DGNG and VDI 4707)**
[Certification levels: Energy Level G, F, E, D, C, B & A]
VDI 4707 is a guideline established by the German Association of Engineers for evaluating the energy efficiency of installed elevators.

**Singapore (BCA Green Mark)**
[Certification levels: Certified, Gold, GoldPlus, Platinum]
The BCA Green Mark Scheme was launched by the Building and Construction Authority (BCA). It is intended to promote sustainability in the built environment and raise environmental awareness among developers, architects, and builders.

**United Kingdom (BREEAM)**
[Certification levels: Pass, Good, Very Good, Excellent, Outstanding]
Implemented in 1990 in the UK by the Building Research Establishment, the BRE Environmental Assessment Method (BREEAM) was the world’s first environmental assessment system for green buildings.

**Japan (CASBEE)**
[Certification levels: C, B-, B+, A, S]
CASBEE (Comprehensive Assessment System for Build Environment Efficiency) is an assessment method to measure the environmental performance of buildings. It was established in 2001 by the Japan Green Building Council (JaGBC) and the Japan Sustainable Building Consortium (JSBC) under the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

**China (Energy Conservation Law)**
On April 2008, an amended version of China’s Energy Conservation Law came into effect. Based on this law, measures for the Supervision and Administration of Energy-conservation of Special Equipment with High Energy Consumption that are related to elevators and escalators came into effect on September 1, 2009.

**Hong Kong (Building Energy Code)**
Hong Kong is considering implementation of a mandatory adoption of the building energy code for introduction into the Legislative Council by the end of 2009. The proposed scheme requires buildings to comply with minimum energy efficiency standards in their system design.

● Laws & Codes
Some countries have established a legal framework to promote energy conservation.

**Source:** Japan Center for Climate Change Actions  http://jccca.org

What is happening to the environment?

Environmental Issues and Global Approaches

● What is happening to the environment?
These are only a few examples of observed impacts of climate change around the world. We must proactively work together to stop global warming in order to protect our beautiful Earth for posterity.

![Dried-up pond due to lack of rainfall](image)
Agriculture in the Sahel region, without the widespread use of irrigation systems, farm equipment or chemical fertilizers, is dependent on rainfall.

![Retreating A1010 Glacier in the Himalayas of East Nepal](image)

![Majuro Atoll in the Marshall Islands](image)
Some coral islands are in danger of submersion by rising sea levels due to global warming.

![Collapse of Perito Moreno Glacier in the Andes of Argentina](image)

● Assessment
Throughout the world, a variety of assessment systems for green buildings have been established to promote the better environmental performance of buildings.

**USA (LEED)**
[Certification levels: Certified, Silver, Gold, Platinum]
Leadership in Energy and Environmental Design (LEED) is a rating system developed by the U.S. Green Building Council (USGBC) to evaluate the environmental performance of buildings and sites. It is adopted not only in the U.S., but also used in many other countries for real-estate appraisal.

**Germany (DGNG and VDI 4707)**
[Certification levels: Energy Level G, F, E, D, C, B & A]
VDI 4707 is a guideline established by the German Association of Engineers for evaluating the energy efficiency of installed elevators.

**Singapore (BCA Green Mark)**
[Certification levels: Certified, Gold, GoldPlus, Platinum]
The BCA Green Mark Scheme was launched by the Building and Construction Authority (BCA). It is intended to promote sustainability in the built environment and raise environmental awareness among developers, architects, and builders.

**United Kingdom (BREEAM)**
[Certification levels: Pass, Good, Very Good, Excellent, Outstanding]
Implemented in 1990 in the UK by the Building Research Establishment, the BRE Environmental Assessment Method (BREEAM) was the world’s first environmental assessment system for green buildings.

**Japan (CASBEE)**
[Certification levels: C, B-, B+, A, S]
CASBEE (Comprehensive Assessment System for Build Environment Efficiency) is an assessment method to measure the environmental performance of buildings. It was established in 2001 by the Japan Green Building Council (JaGBC) and the Japan Sustainable Building Consortium (JSBC) under the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

**China (Energy Conservation Law)**
On April 2008, an amended version of China’s Energy Conservation Law came into effect. Based on this law, measures for the Supervision and Administration of Energy-conservation of Special Equipment with High Energy Consumption that are related to elevators and escalators came into effect on September 1, 2009.

**Hong Kong (Building Energy Code)**
Hong Kong is considering implementation of a mandatory adoption of the building energy code for introduction into the Legislative Council by the end of 2009. The proposed scheme requires buildings to comply with minimum energy efficiency standards in their system design.

● Laws & Codes
Some countries have established a legal framework to promote energy conservation.

**Source:** Japan Center for Climate Change Actions  http://jccca.org

What is happening to the environment?
The New “Quality in Motion” with an Environmental Perspective—“Evolving Quality”

**Comfort**
- Smooth riding comfort
- Universal design
- Creating comfortable building environments

**Efficiency**
- Promoting energy-savings with cutting-edge drive/control technologies
- Improving efficiency of building management and transportation in buildings
- Pursuing space-saving developments

**Safety**
- Ensuring safety during boarding and exiting and at the time of an emergency
- Developing highly durable and safe service systems
- Offering advanced building security

**Ecology**
- Saving resources through downsizing and weight reduction
- Using environmentally conscious materials
- Promoting eco-factories

We strive to be green in all of our business activities.

We take every action to reduce environmental burden during each process of our elevators’ and escalators’ lifecycle.
Green Technologies

We strive to be green in all of our business activities.

Eco Products

Mitsubishi Electric’s advanced technologies bring greater energy savings to products. Our latest group control system enables elevators to use less energy, and improves traffic flow in the building. Moreover, we use materials with reduced environmental impact.

Energy Savings

Regenerative Converter

The Regenerative Converter transmits the power regenerated by the traction machine via distribution transformer to the electrical network in the building.

Variable traveling speed elevator system

This system allows elevators to travel faster than their rated speed depending on the number of passengers in the car, thereby improving transport efficiency.

PM motor with joint-lapped stator

With the joint-lapped motor in traction machines, the iron core is split like a hinge, which allows coils to be wound around the core more densely, resulting in greater motor efficiency and compactness.

PM door motor

The direct-drive PM door motor and the VVVF inverter realize efficient door opening and closing.

Car light/fan shut off

The car lighting and ventilation fan are automatically turned off if there are no calls for a specific period.

LED lighting

Energy-efficient and long-life LEDs are used for car lighting in elevators and under-handrail lighting on escalators.

Traffic Efficiency

Σ AI group control system

Effective control of multiple elevators reduces energy consumption.

Energy-saving operation

Smart control technology

According to each car’s location and passenger load, the group control system assigns a call to the elevator that best balances operational efficiency and energy consumption.

Destination oriented prediction system (DOAS)

When a passenger enters a destination floor at a hall, the hall operating panel indicates which car will serve the floor.

Automatic operation

Our newly-developed, innovative elevator inverter enables a unique way of controlling the elevator speed in Automatic and Variable-Speed Operations.

Eco Products

Moreover, we use materials with reduced environmental impact.

Mitsubishi Electric

Eco Products

Energy Savings Traffic Efficiency
Rooftop garden (5,537 m²) [INAZAWA works]

The garden on the factory building shields from heat and improves air conditioning efficiency.

High efficiency ceiling lights

Old lights were replaced by high-frequency inverter lights, as the illuminance sensors help optimize the use of natural light and save 270,000 kWh of electricity per year.

VOC* removal system

A VOC removal system was installed. It not only eliminates approximately 93% of the VOCs, it also deodorizes the gases emitted. As a result, the deodorizing furnace is no longer required, which ultimately reduces the natural gas consumed by Inazawa Works.

* VOC: volatile organic compound

Elevator testing tower – SOLAÉ – [INAZAWA works]

Ventilation tunnels

Large voids (ventilation tunnels) allow the tower to breathe fresh air through window louvers, ventilating the tower and cooling off the indoor temperature.

Photocatalytic tiles

Photocatalytic tiles on the outer walls resist and decompose dirt and even bacteria, helping reduce the use of cleaner.

ISO 14001 certification

Mitsubishi Electric's products, comprising the world’s leading elevator and escalator technologies, are now manufactured in nine countries and regions, and sold in 88 countries. Since the achievement of ISO 14001 certification at the Inazawa Works, other overseas manufacturing plants and affiliated companies in Japan have also been certified.

Logistics

Reduction in wood consumption for packing (3Rs – reduce, reuse, recycle)

By reusing wood from crates, Mitsubishi Electric reduced wood consumption by 240 m³ per year.

Increasing load capacity to reduce the number of trucks used

We formulated guidelines on how to stack multiple containers or crates depending on their shape to improve load capacity. These efforts reduced the number of trucks used, and CO₂ emissions accordingly.

Local procurement and production

Purchasing materials and manufacturing products as close as possible to our customers, we promote local procurement and production in order to use minimum resources and energy in transportation.
We strive to be green in all of our business activities.

Installation / Maintenance

Development of installation engineering
In order to reduce the time and energy required for installation, installation equipment was made smaller and lighter. Mitsubishi Electric developed its installation method and equipment to have less impact on the environment.

Modernization

Proposing the most suitable solution
Modernization allows an elevator to be refurbished by replacing some of its components so that usable components can be retained.

High-performance maintenance service
Monitoring each elevator’s condition at the central control center, we provide efficient and reliable service without wasting energy.

Modernization: Case A

Existing elevators: Door motor, Control panel

Modernization: Case B

New components: Door motor, Traction machine

Benefits
- Energy savings
- Improved traffic efficiency
- Minimal wasted parts
- Safety
- Reliability

Initiatives to Achieve a Recycling-based Society

The 3Rs: Reduce, Reuse and Recycle Products

Utilizing ‘Design for Environment’ and ‘Life Cycle Assessment’ Technologies

Produce products that incorporate the 3Rs throughout their lifecycles

Initiatives to Prevent Global Warming

Aim to Reduce Total CO₂ Emissions from Production by 30%

Raising the efficiency and performance of air conditioning, lighting and other utility equipment, as well as improving production lines reduces the amount of CO₂ emitted during production and helps prevent global warming.

Environmental Vision 2021

Environmental Vision 2021 is the long-term environmental management vision of the Mitsubishi Electric Group. It establishes a framework for realizing a sustainable planet, and defines long-term initiatives to prevent global warming and to create a recycling-based society.

Aim to Reduce CO₂ Emissions from Product Usage by 30%

Prevent global warming by delivering energy-saving products

Initiatives to Prevent Global Warming

Groupwide Plan to Reduce CO₂ from Production

Aim to Reduce CO₂ Emissions from Product Usage by 30%

Reduce, Reuse and Recycle Products

Utilizing ‘Design for Environment’ and ‘Life Cycle Assessment’ Technologies

Produce products that incorporate the 3Rs throughout their lifecycles

Initiatives to Achieve a Recycling-based Society

Zero Emissions: Measures to Reduce the Direct Landfill of Waste to Zero

Restricting generation of waste and promoting the efficient reuse and re-resourcing of waste

Recycle

Expand closed loop recycling programs for plastics and work toward recycling 100% of waste plastic from appliances

Reuse

Introduce product lease/rental program and expand maintenance services

Cut amount of raw materials used by 30% by setting the goal of size and weight reduction for each product, and by not using non-renewable materials.

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Disposal

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Closed-loop Recycling: Different types of plastics are pulverized together and automatically sorted

Zero Emissions: Measures to Reduce the Direct Landfill of Waste to Zero

Restricting generation of waste and promoting the efficient reuse and re-resourcing of waste

Recycle

Expand closed loop recycling programs for plastics and work toward recycling 100% of waste plastic from appliances

Reuse

Introduce product lease/rental program and expand maintenance services

Cut amount of raw materials used by 30% by setting the goal of size and weight reduction for each product, and by not using non-renewable materials.

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Disposal

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Closed-loop Recycling: Different types of plastics are pulverized together and automatically sorted

Zero Emissions: Measures to Reduce the Direct Landfill of Waste to Zero

Restricting generation of waste and promoting the efficient reuse and re-resourcing of waste

Recycle

Expand closed loop recycling programs for plastics and work toward recycling 100% of waste plastic from appliances

Reuse

Introduce product lease/rental program and expand maintenance services

Cut amount of raw materials used by 30% by setting the goal of size and weight reduction for each product, and by not using non-renewable materials.

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Disposal

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Closed-loop Recycling: Different types of plastics are pulverized together and automatically sorted

Zero Emissions: Measures to Reduce the Direct Landfill of Waste to Zero

Restricting generation of waste and promoting the efficient reuse and re-resourcing of waste

Recycle

Expand closed loop recycling programs for plastics and work toward recycling 100% of waste plastic from appliances

Reuse

Introduce product lease/rental program and expand maintenance services

Cut amount of raw materials used by 30% by setting the goal of size and weight reduction for each product, and by not using non-renewable materials.

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Disposal

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Closed-loop Recycling: Different types of plastics are pulverized together and automatically sorted

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Disposal

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Closed-loop Recycling: Different types of plastics are pulverized together and automatically sorted

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Disposal

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Closed-loop Recycling: Different types of plastics are pulverized together and automatically sorted

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce

Conventional Method

Hyper Cycle Technology

Manual Dismantling

Recycling without dismantling

Plastics recovered from home appliances are reused in home appliances

Full closed loop recycling for plastics and work toward recycling 100% of waste plastic from appliances

Recycling / Reregistered Products

Reduce