

MM DD, YEAR

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## **Preliminary Survey Sheet on Energy Audit for Factory**

Name of Company, Business Establishment: Name \_\_\_\_\_

Division to Which the Person in Charge Belongs: \_\_\_\_\_ Dept.

Name of the Person in Charge: Name \_\_\_\_\_

Telephone number: \_\_\_\_\_

Facsimile number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

## I. Items Requested by the Client for Audit

### 1. Items for which the client particularly wishes to have audited (Mark the items with “ ,” more than one item may be marked.)

**[Items for general management]**

- (1) Energy management system
- (2) State of implementation of measurement and recording of thereof
- (3) Maintenance and management of facilities and equipments
- (4) Management of energy consumption
- (5) Management of energy consumption per unit production for major products
- (6) Improvement of manufacturing processes
- (7) Measures for leveling of loads
- (8) Others ( )

**[Air conditioning and refrigeration facilities]**

- (1) Overall operation management
- (2) Energy conservation measures
- (3) Operation control of refrigeration facilities
- (4) Operation control of auxiliary facilities
- (5) Cold storage and refrigeration facilities
- (6) Others ( )

**[Pump, fan, compressor, co-generation, etc.]**

- (1) Operation control of pumps, fans
- (2) Operation control of air conditioning facilities and compressors
- (3) Plan for introduction of cogeneration facilities, etc.
- (4) Others ( )

**[Boiler, industrial furnace]**

- (1) Combustion control
- (2) Operation and efficiency control
- (3) Thermal insulation and heat loss control
- (4) Exhaust gas temperature control
- (5) Others ( )

**[Steam system, heat exchanger, waste heat, wastewater, etc.]**

- (1) Operation control of steam
- (2) Prevention of steam leaks, thermal insulation control
- (3) Optimization of piping system
- (4) Load leveling
- (5) Recovery and reuse of steam drain
- (6) Operation control of heat exchangers
- (7) Reduction of waste heat and wastewater
- (8) Others ( )

**[Electric facilities]**

- (1) Management of power receiving facilities
- (2) Management of transform facilities in main and substations
- (3) Selection of motor capacity and motor operation control
- (4) Operation management of lighting facilities
- (5) Operation management of electric heating facilities
- (6) Others ( )

(To be entered by ECCJ)

Identification number:

**2. Specific detail of the items for which the client particularly wishes to have audited.**

Item	Detail

**3. Effect of past energy conservation measures**  
(Effects are preferably entered in quantitative value.)

Items for energy conservation measure	Effect

(To be entered by ECCJ)

Identification number:

## II. State of Energy Management

### 1. Contract for electric power

Kind of electric power contract (Please mark with “ ” or describe.)	Extra high tension power, high tension power (A, B), commercial power ( ) Others ( )		
Contract conditions, etc.	Contract power kW	Receiving voltage kV	Actual power factor %
Selective agreement (contract for control of demand and supply)	Yes , No (Enter the type of contract in case of “Yes.”: )		

### 2. Periodic meetings between the division in charge of energy management and divisions in charge of manufacturing workplaces

( Yes , No ) Major themes of meeting in case of “Yes” (Mark the major themes with “ ”. More than one theme may be marked.)

- Periodic confirmation of energy consumption performances
- Investigation of the causes in case energy consumption increases or decreases significantly
- Establishment and adjustments of the target energy consumption (target unit energy consumption) for the entire business establishment
- Exchange of information and opinions on practical methods for energy conservation
- Others ( )

### 3. Operation hour

Manufacturing division

- Yearly operation days ( ) days
- Operation hour: : to : , rest time ( ) minutes  
: to :  
: to :

Administrative division

- Specified working hour: : to : , rest time ( ) minutes

### 4. Manufacturing process schematic diagram (block flow diagram)

(The diagram included in the company’s brochure may be attached instead of the drawing.)

(To be entered by ECCJ)

Identification number:

### III. State of Energy Consumption

#### 1. Facility (major facilities)

	Electricity consuming facility	Ratio of consumption	Type of fuel	Combustion facility	Facility to consume heat	Ratio of consumption
Electric power	[ ]	%	[ ]	[ ]	[ ]	%
	[ ]	%			[ ]	%
	[ ]	%			[ ]	%
	[ ]	%	[ ]	[ ]	[ ]	%

(Note) The ratio of consumption (%) may be expressed in terms of yearly consumption or on the approximate data on a representative day (may be expressed in steam consumption for boilers, in kW for electric power). The client is requested to fill in the data that are obtainable by the reasonable extent of effort.

#### 2. Facility to be audited (See Notes 1, 4 and 5)

Facility and equipment	Year and month of installation	Main specifications (Note 2)	Number of units	Operation hour (Note 3)	Remark

(Note 1) Fill in the major ones only of the facilities and equipment to be audited. Fill in utility facilities (air compressors, major air conditioner heat sources, boilers, water facilities, etc.) if possible.

(Note 2) Regarding specifications, major items of such things as t/h, kW, kcal/h, RT, USRT, pressure shall be entered.

(Note 3) Annual operating hours, or monthly or daily average operating hours shall be entered.  
(If more than one unit is operating, either average operating hours per unit or operating hours of individual units may be entered.)

(Note 4) If the space of this table is not enough, a copy or copies of this form may be used for inputting more information.

(Note 5) If a list satisfying the purpose of this table is available, you may attach such table to this form.

(To be entered by ECCJ)

Identification number:

### 3. Types of energy, their consumption and costs, etc.

If you have more than one contract for electric power, please enter the data separately for each contract.  
(Either enter the data separately in the same column or use a copy or copies to enter the data separately.)

Energy type (unit) Month, year	Electric power			Heavy fuel oil (A, B, C)	Kerosene	Diesel fuel	City gas (Note 1)	LPG	Water
	Maximum power	Purchased electricity	Private electric power						
	(kW)	(1,000 kWh)	(1,000 kWh)	(kL)	(kL)	(kL)	(m <sup>3</sup> )	(t) (Note 2)	(t)
April, 200x									
May									
June									
July									
August									
September									
October									
November									
December									
January, 200y									
February									
March									
Total									
Annual electric power cost (A1)	million yen including the base charge		Annual costs of fuels, etc.	million yen	million yen	million yen	million yen	million yen	million yen
Average cost of electric power	yen/kWh including the base charge		Average cost of fuels, etc.	yen/liter	yen/liter	yen/liter	yen/m <sup>3</sup>	yen/t	yen/t
Annual product shipment price (B)	million yen			Annual total fuel cost, (A2) million yen					
Energy cost ratio (to 1st decimal place)	Electric power cost ratio (=(A1 / B) × 100) %			Fuel energy cost ratio (=(A2 / B) × 100) %					

\* Please enter data for the recent 12 months.

\* If you use a fuel that is not shown in the table, rewrite the kind of fuel in the column head which you do not use into the one you use, and also change the unit to be suited to the fuel you use, and enter the data.

(Note 1) Enter the gas symbol, 13A for example, in the parenthesis.

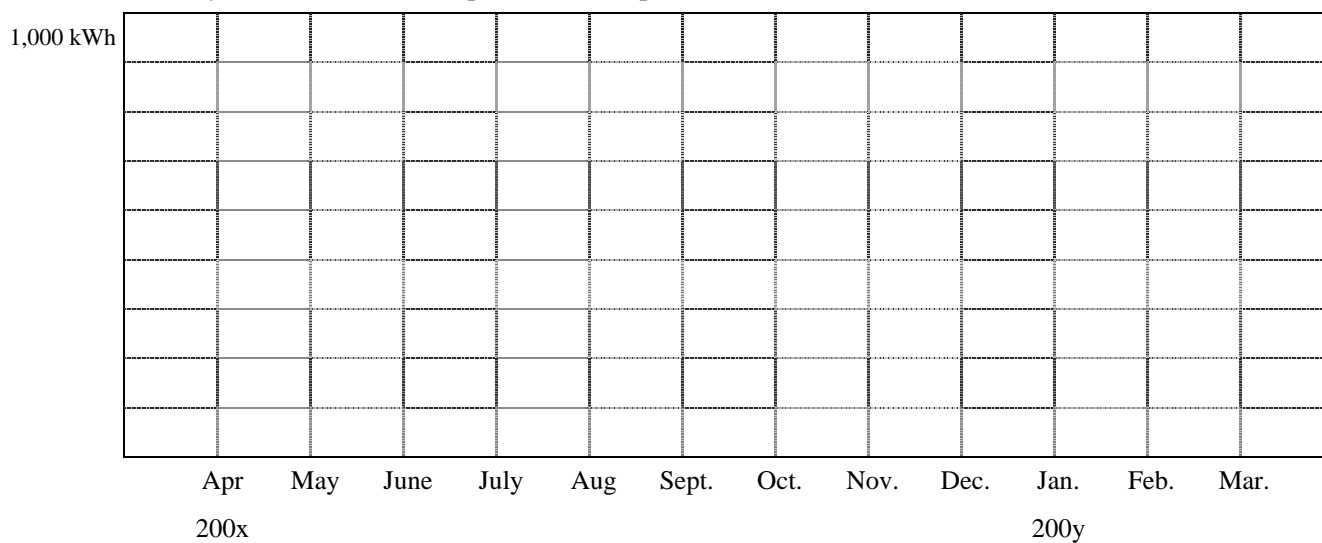
(Note 2) If your data for LPG consumption is expressed in “m<sup>3</sup>,” convert the data into “ton” using a conversion factor, 1 m<sup>3</sup> = 2.07 kg.

(To be entered by ECCJ)

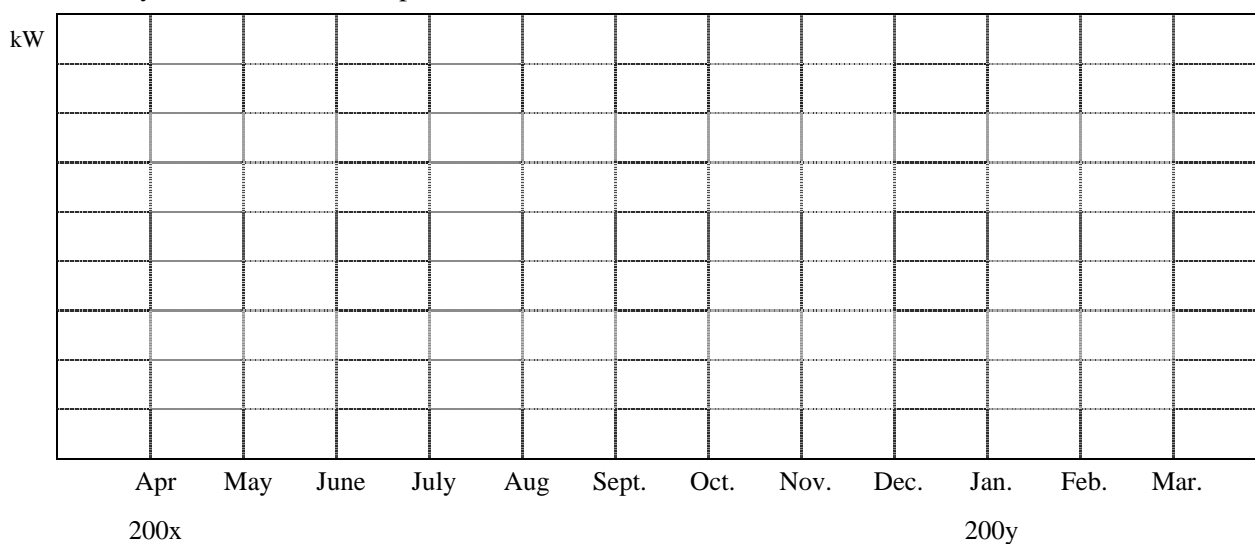
Identification number:

**4. Temporal variation of electric power consumption** (Fill in to the extent you have data.)

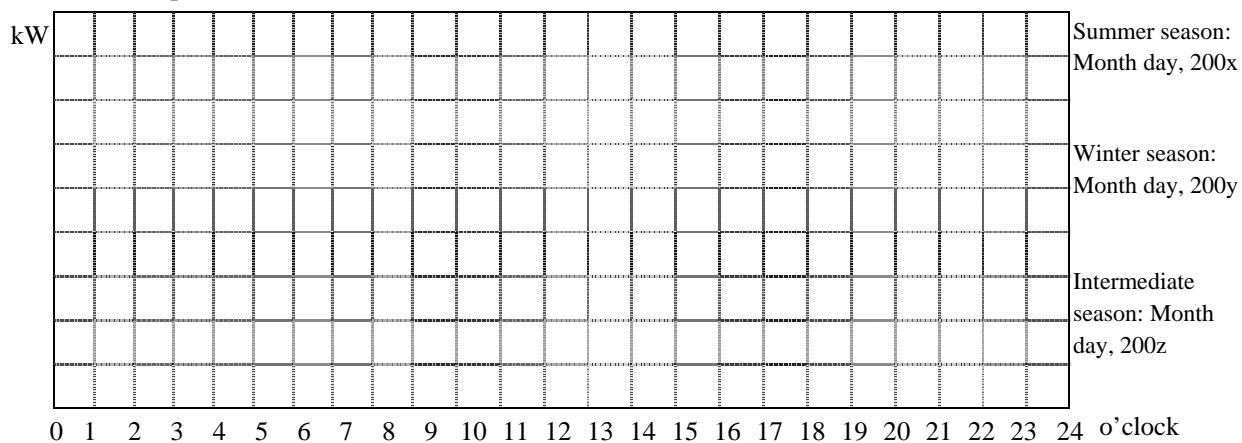
Monthly variation of electric power consumption



Monthly variation of electric power



Hourly variation of electric power (typical day for each season): Please attach numerical tables also to the extent possible.



(To be entered by ECCJ)

Identification number:

**5. Hourly variation of electric power consumption** (Fill in to the extent you have data.)

Period of the day	Summer season (kW) Month day, 200x	Winter season (kW) Month day, 200y	Intermediate season (kW) Month day, 200z
00:00 ~ 01:00			
01:00 ~ 02:00			
02:00 ~ 03:00			
03:00 ~ 04:00			
04:00 ~ 05:00			
05:00 ~ 06:00			
06:00 ~ 07:00			
07:00 ~ 08:00			
08:00 ~ 09:00			
09:00 ~ 10:00			
10:00 ~ 11:00			
11:00 ~ 12:00			
12:00 ~ 13:00			
13:00 ~ 14:00			
14:00 ~ 15:00			
15:00 ~ 16:00			
16:00 ~ 17:00			
17:00 ~ 18:00			
18:00 ~ 19:00			
19:00 ~ 20:00			
20:00 ~ 21:00			
21:00 ~ 22:00			
22:00 ~ 23:00			
23:00 ~ 00:00			

(To be entered by ECCJ)

Identification number: