Information of Safety and Environment

Analysis of Hiyari-Hatto

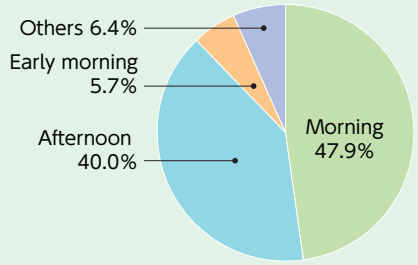
Hiyari-Hatto (near-loss) is an incident that was prevented just in time before it could have occurred.

At construction sites, repeated near-loss incidents may lead to a serious accident.

The Hiyari-Hatto data management system, developed by TOYO, has been employed since January 2008 at domestic construction sites. Hiyari-Hatto data at construction sites is collected and analyzed at the Head Office, then fed back to the group companies and construction sites. In the following report, 2,270 incidents from January 2008 to October 2011 are analyzed.

Summary of Analysis Results

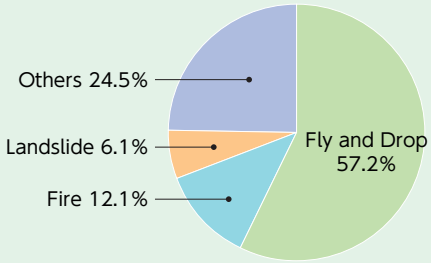
(1) Time of occurrence



Measures in view of frequent occurrence in the morning

- Be sure to implement morning meeting, KYK (Note 1), and TBM (Note 2) and confirm work procedures before start of morning work
- Let all workers see around the work places to identify the conditions before work.
- By conducting alcohol check, avoiding unsafe action

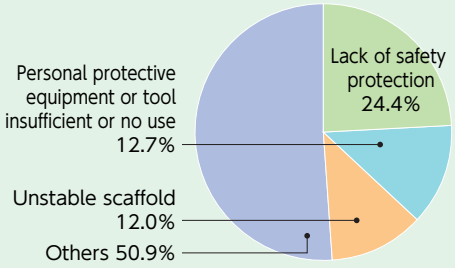
(2) Cause (Material)



Measures in view of frequent Fly and Drop accidents

- Give education referring to instances of accidents and Hiyari-Hatto
- Provide the cover fully at horizontal place of scaffolding
- Tie tools with a rope to prevent falling

(3) Reason for occurrence (Material)



Measures for lack of safety protection

- Implement one-person KY (Note 3) using KY card before starting work
- Prepare for tomorrow work, when today's work completed, by cleanup and organizing

(Note 1) KYK stands for "Kiken Yochi Katsudou" (risk prediction activity), or activities for predicting work-related risks before the work is started.
(Note 2) TBM stands for "Tool Box Meeting," or activity to briefly discuss the contents, methods, arrangements, and problems of the work of the day before starting the work at the workplace.
(Note 3) One-person KY means KYK that each worker carries out immediately before starting work using the "KY cards" (self-questioning cards for risk prediction).

Efforts in Office(*1) to save Energy and Resources

(*1: Office means Head Office and Engineering Center.)

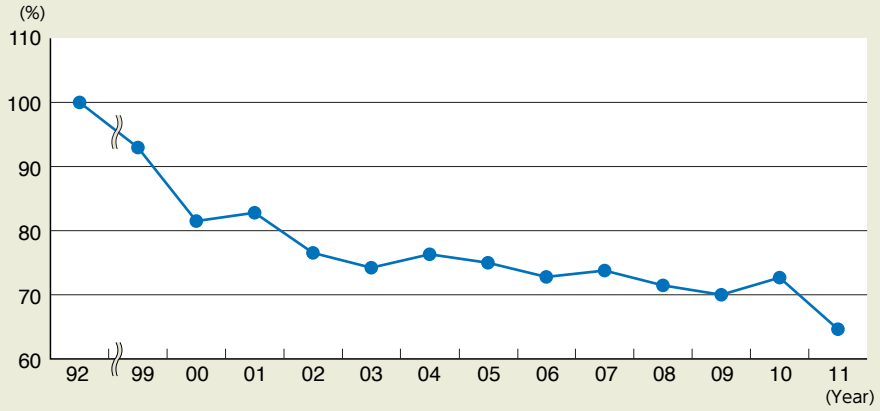
●Reduction of CO_2 emissions

CO_2 emissions from office are calculated based on electricity consumption, fuel gas consumption (supplied by cooking gas utility company network) and consumption of fuel oil used for emergency power generation by DEG set.

Toyo Japan launched more energy-saving efforts activities from year 2000 with office lights being turned off during lunch breaks, removal of lights deemed unnecessary and energy saving investments, such as installing lighting inverter stabilizers.

CO_2 emissions in 2011 were reduced by 35% from the 1992 level and by 20% from the 2000 level. Because of shortage of electric power supply following earthquake disaster in 2011, we undertook emergency measures to save electricity soon thereafter.

Relative CO_2 Emissions (%)



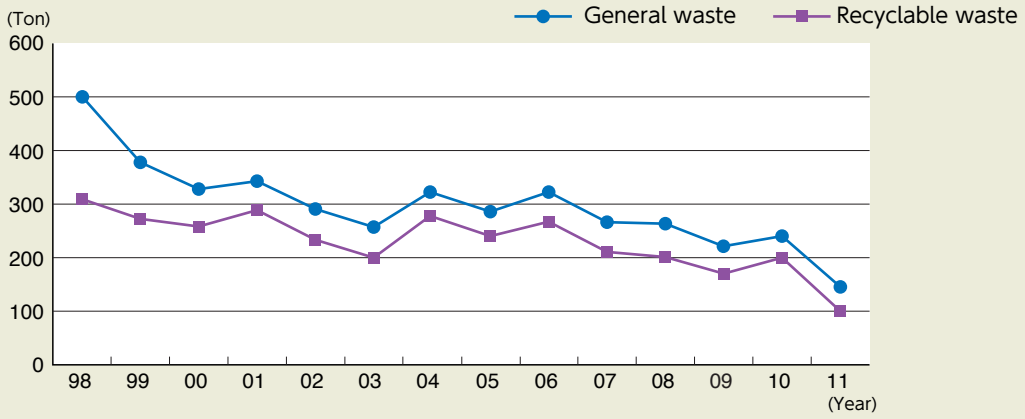
●Reduction of general waste and recyclable waste(*2)

As office efforts in saving resources, strict separation of general waste is being conducted. Also, continuous utilizing a paper both sides for copying or printing was enforced to save resources.

Disposal of general and recyclable waste* has been decreasing gradually over the years and each waste is reduced to 148 ton and 105 ton respectively in 2011 and reduced by 70% from the 1998 level.

(*2: Recyclable waste is the waste including paper output from personal computer and photo-copy machine, newspaper, glass bottle and can.)

Disposal of General Waste and Recycle Waste



Information of Safety and Environment

Construction Waste Disposal

Project sites in Toyo-Japan

1. Percentage of construction waste by category

The figure to the right shows the weight of construction waste and its categories in proportion. The weight of construction waste disposal from domestic construction sites in 2011 was 2,222 ton, about 1,376 ton more than that disposed in 2010.

Toyo-Japan undertakes various kinds of construction work and percentage of waste by category tends to be different in each year.

The four categories of waste marked with(*) an asterisk are recyclable.

2. Percentage of construction waste by disposal method

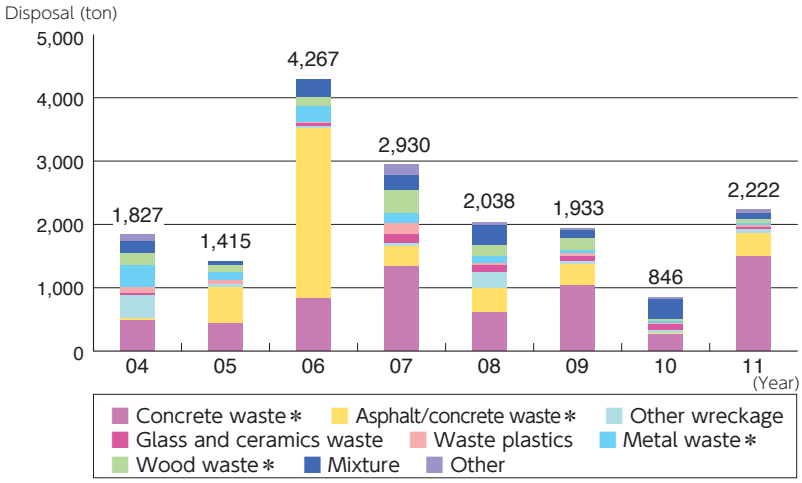
Percentage of construction waste by disposal method (recycle, landfill, and incineration) is shown in the figure to the right, that is, 93% recycled, 6% landfill and 1% incinerated in 2011. Overall, the construction waste has reduced. Recycling rate has increased from 80% (year 2010) to 93% (year 2011).

3. Recycling rates of four items specified by the Construction Material Recycling Act

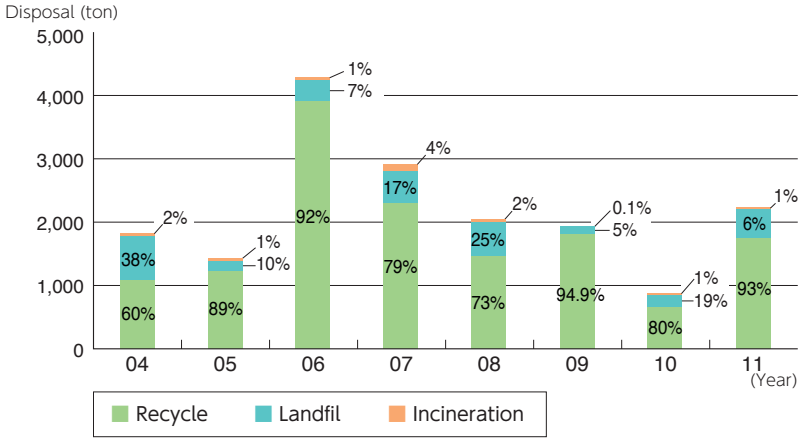
The recycling rates of four items specified by the Construction Material Recycling Act are illustrated on the right.

The recycling rates for metal waste, asphalt / concrete waste and concrete waste have been kept to 100% since year 2010.

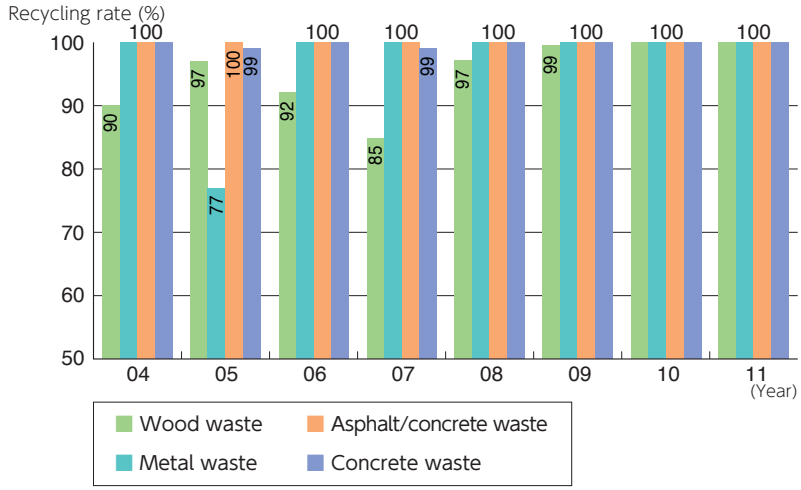
● Percentage of construction waste by category



● Percentage of construction waste by disposal method



● Recycling rates for four items specified by the Construction Material Recycling Act



Construction Waste Disposal

Overseas Project sites

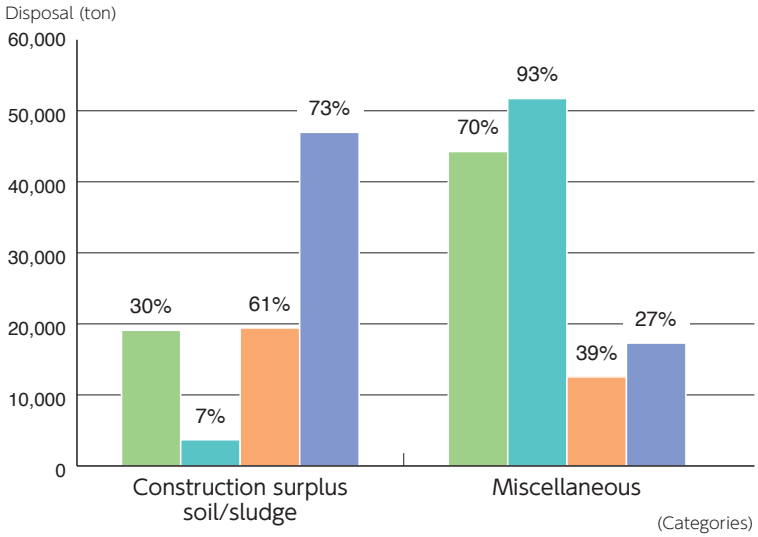
Weight of construction waste disposal and percentage by category

The total disposal weight in 2011 (Jan. to Dec. 2011) was 64,300 ton, 100% increase from 2010 whereas it decreased by 16% from 2009.

The reason of increase of construction surplus soil/sludge in 2011 was due to disposal to out of site instead of using it as backfill in 2011 for an Indian project.

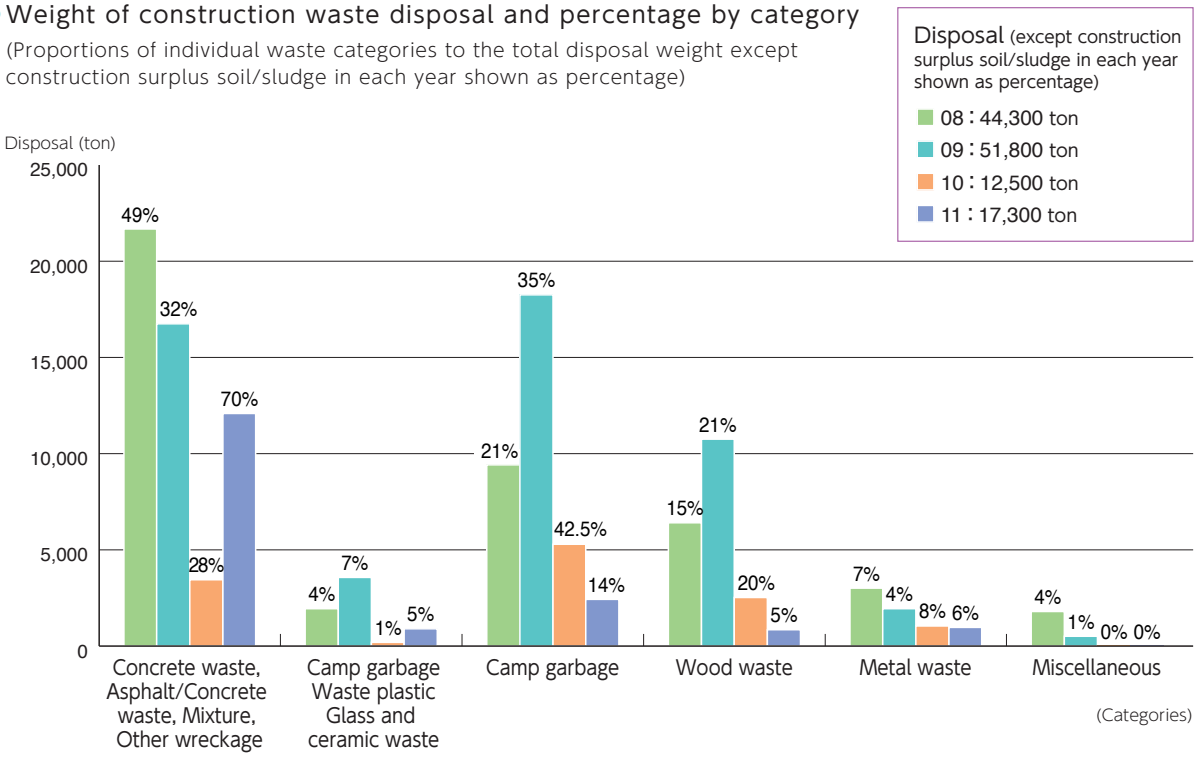
● Weight of construction waste disposal and percentage by category
Comparison between construction surplus soil/sludge and miscellaneous

(Proportions of individual waste categories to the total disposal weight in each year shown as percentage)



● Weight of construction waste disposal and percentage by category

(Proportions of individual waste categories to the total disposal weight except construction surplus soil/sludge in each year shown as percentage)



The weight of construction waste disposal in 2011, except construction surplus soil/sludge was 17,300 ton, an increase of 38% from 2010.