

Information of Safety and Environment

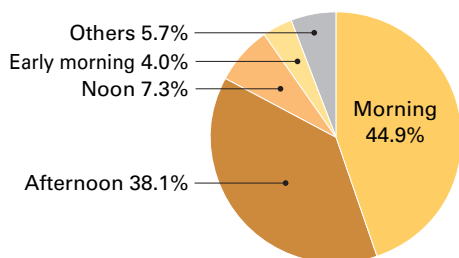
Analysis of Near-miss (Hiyari-Hatto)

Hiyari-Hatto or “Near-miss” is an incident which was prevented just before its actual occurrence to avoid an accident. It is said that frequent near-miss indicates impending serious accident.

The Hiyari-Hatto data collection and 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, 3,476 incidents from 2008 to 2012 are analyzed.

Summary of Analysis results

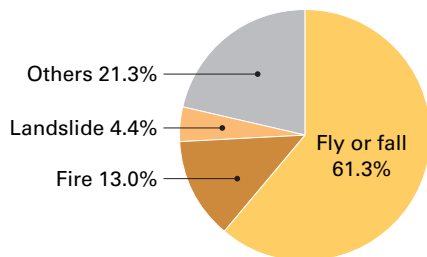
(1) Time of occurrence



Countermeasures for higher occurrence during morning

- Be sure to implement morning meeting, KYK^(Note1) and TBM^(Note2) and confirm work procedures before start of morning work
- Let all workers see around the work places to identify the conditions before work commences.
- By conducting alcohol check, avoid unsafe action

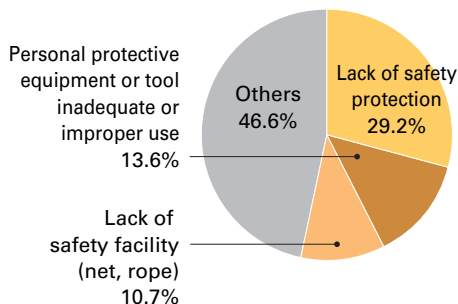
(2) Root Cause (Material)



Countermeasures for higher occurrence “Fly and Drop” accidents

- Give Training referring to instances of accidents and near miss (Hiyari-Hatto) incidents
- Cover fully at horizontal place of scaffolding
- While working at high elevations, secure tools with a rope to prevent falling down

(3) Why Accident was about to Happen (Material)



Countermeasures for preventive measure failures

- Implement one-person KY^(Note3) using KY card before starting work
- After finishing days work, encourage clean-up, house-keeping, to keep everything in order for next day

(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 prior to starting work using the “KY cards” (self-questioning cards for risk prediction).

Efforts in Office^(*1) to Save Energy and Resources

Reduction of CO₂ emissions

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

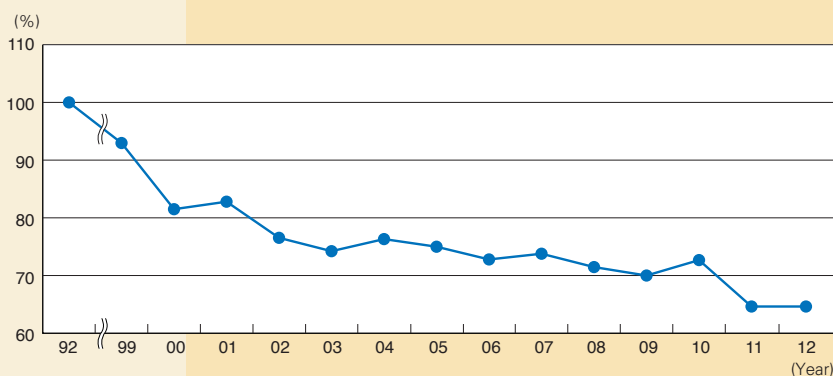
CO₂ emissions from office are calculated based on electricity consumption, fuel gas consumption (supplied by cooking gas utility company network) and consumption of fuel oil used for emergency power generation by DEG set.

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.

Anticipating shortage of electric power after 2011 major earthquake, we undertook efforts to reduce power consumption. As a result, CO₂ emissions were reduced by 35% compared to the 1992 level. Continuing our efforts to save electric power from year 2011 to year 2012, we could achieve similar level reduction in electric power consumption.

Relative CO₂ Emissions (%)



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

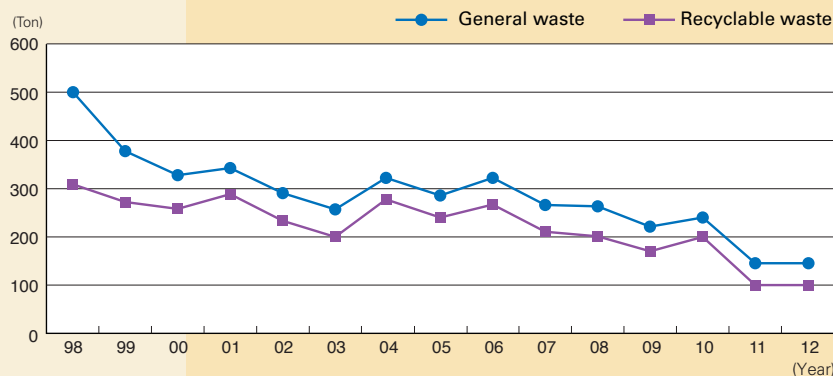
Resource conservation efforts in office include promoting both-side-copy and printing, Strict separation of general waste before disposal.

In general, disposal of general and recyclable waste* has been decreasing gradually over the years and is reduced to 148 ton and 105 ton respectively in 2012. This is 70% reduction compared to the 1998 level. A few large and complex

projects were completed in year 2011 which caused the general waste decrease by 90 ton from 2010 level and it was maintained at same level in year 2012.

(*2: Recyclable waste is the waste including paper prints, output from personal computer and photo-copy machines, newspaper, glass bottles and cans.)

Discharge of General Waste and Recyclable Waste



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Construction Waste Disposal

Project sites in Japan

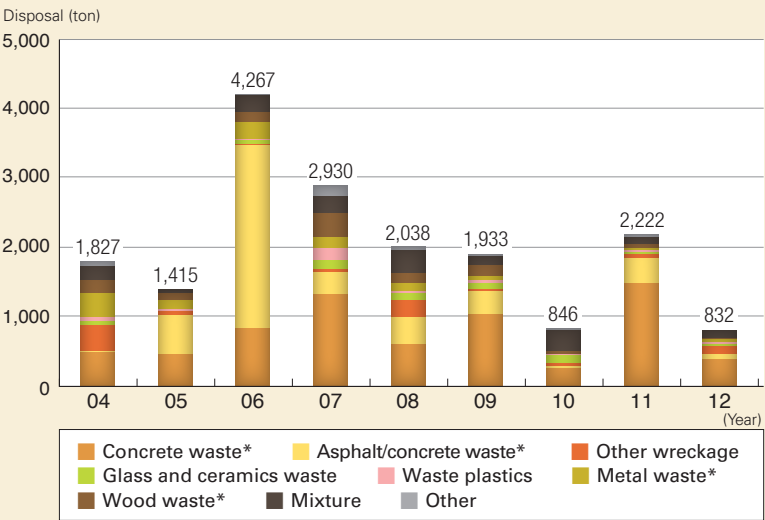
1. Percentage of construction waste by category

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 2012 was 832 ton, about 1,390 ton decreased from 2011.

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.

Percentage of construction waste by category

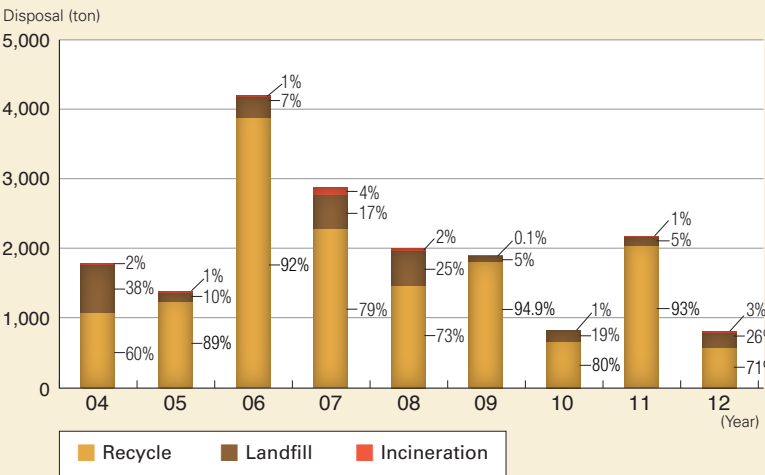


2. Percentage of construction waste by disposal method

Percentage of construction waste by disposal method (recycle, landfill, and incineration) is shown in the figure to the right. For year 2012, it was 71% recycle, 26% landfill and 3% incineration waste.

During year 2012, due to construction completion at two major sites, the “mixture” category waste has increased, thereby reducing the Recyclable waste from 93% in 2011 to 71%.

Percentage of construction waste by disposal method



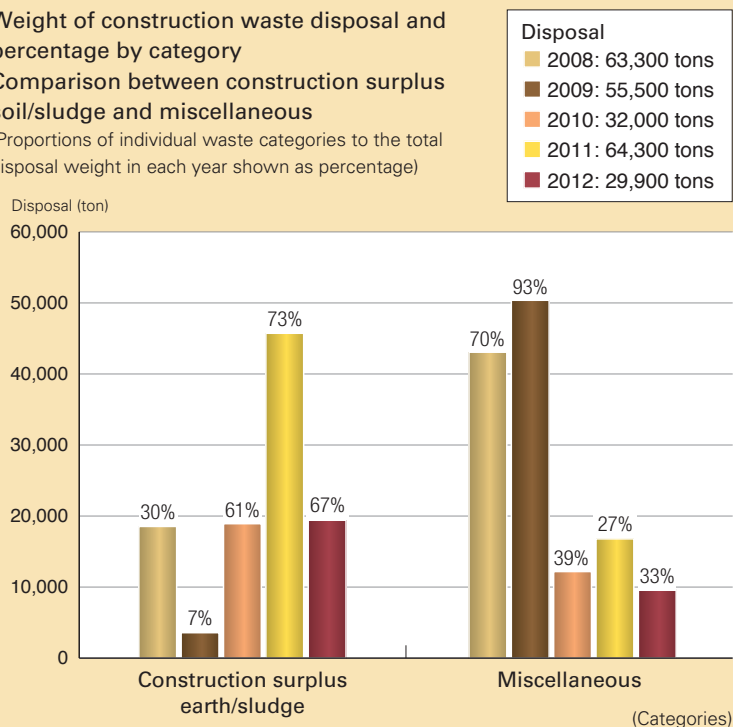
● Overseas project sites

Weight of construction waste disposal and percentage by category

The total construction disposal weight in 2012 (Jan. to Dec. 2012) was 29,900 ton, a 50%, maintaining it same as year 2010. For the year 2012, ratio of construction surplus earth (soil) to Sludge and others remained almost unchanged to 70% and 30%, as in year 2011.

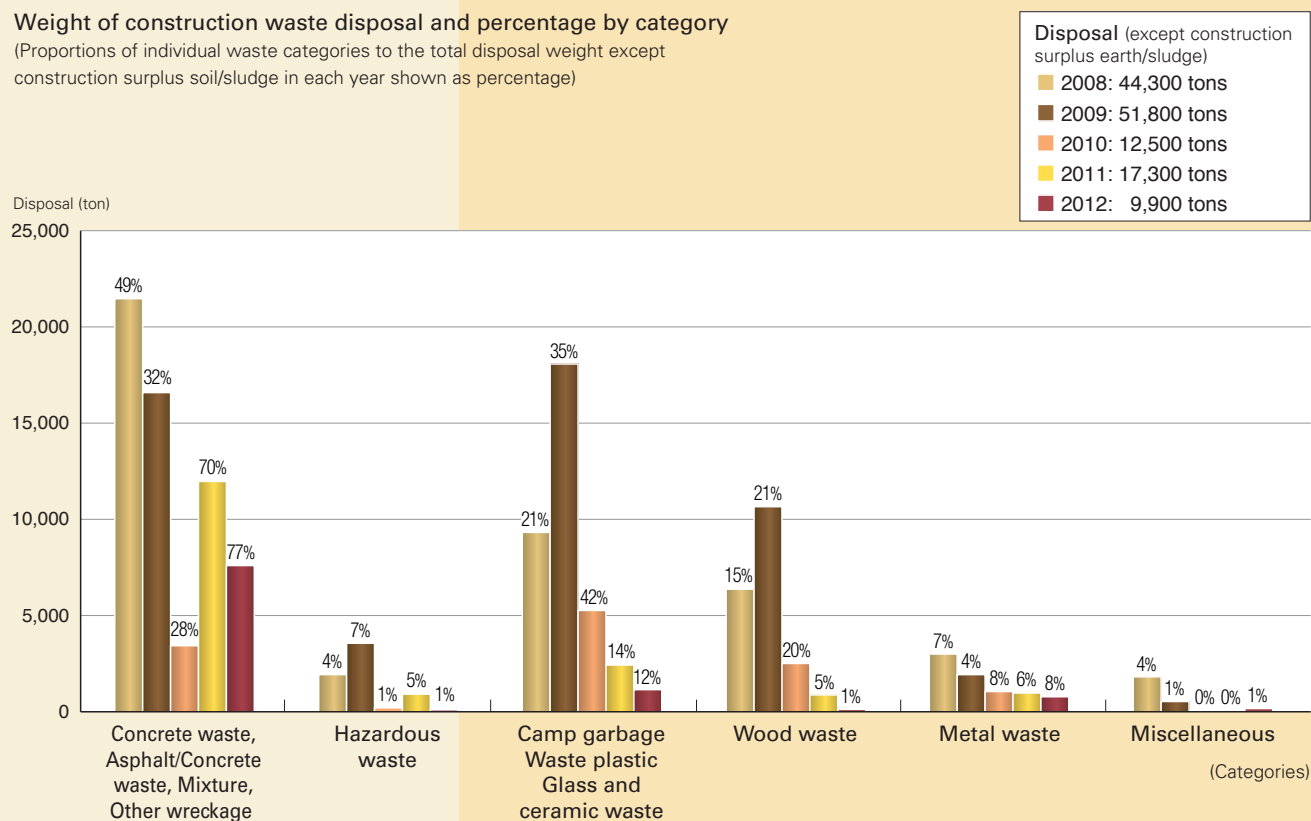
Weight of construction waste disposal and percentage by category Comparison between construction surplus soil/sludge and miscellaneous

(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 2012, except construction surplus soil/sludge was 9,900 ton, 57% of 2011.

Information of Safety and Environment

Environmental Effort in TOYO Group Companies

● Toyo-India

Many clients in India request contractor to have certificate of OHSAS 18001 and ISO 14001 as a condition to sign contract. Moreover, it helps to comply with statutory regulation more reliably and effectively while maintaining the validity of the certification. With this background, Toyo-India plans to get certification of integrated OHSAS 18001 and ISO 14001, approaching pre-audit and final audit, within year 2013.



Third party certification company conducting awareness program for responsible dept. managers of Toyo-India

● Toyo-Malaysia

World Environment Day held on every 5th of June is a day used by the United Nations to stimulate worldwide awareness of environmental issues. Toyo-Malaysia participated in the tree planting ceremony together with client, Petronas Gas Bhd, and planted fruit trees in front of site area at Kerteh, Terengganu State as shown in the pictures.

