

The Greenized Practice of Japanese printing industry

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Japan Federation of Printing Industries (JFPI)

- JFPI(Japan Federation of Printing Industries) was established in June 1985 by 10 Printing Industry Associations to further the sophistication and over all development of the printing industry through the exchange of valuable information and cooperation. The federation was established to contribute to the development of Japanese industries, the improvement of national living conditions, and the advancement of culture.
- Affiliate bodies of JFPI are 10 associations. The number of member companies are 8,325 (as of April 2015)





Affiliate bodies of JFPI

Affiliated Body

member
companies

<div>JFPI</div> <div>10 Associates 8,325 Companies</div>	Printers Association of Japan	93
	All Japan Federation of Printing Industry associations	5113
	Japan Business Forms Association	119
	The Japan Graphic Services Industry Association	877
	All Japan Book Binding Industry Association	857
	Graphic Communications Japan Industry Association	220
	The Japan Federation of Label Printing Industries	619
	The Gravure Cooperative Associations of Japan	163
	Japanese Screen & Digital Printers Association	164
	The Japan Glossy Paper Processing Association	100

Main Activities

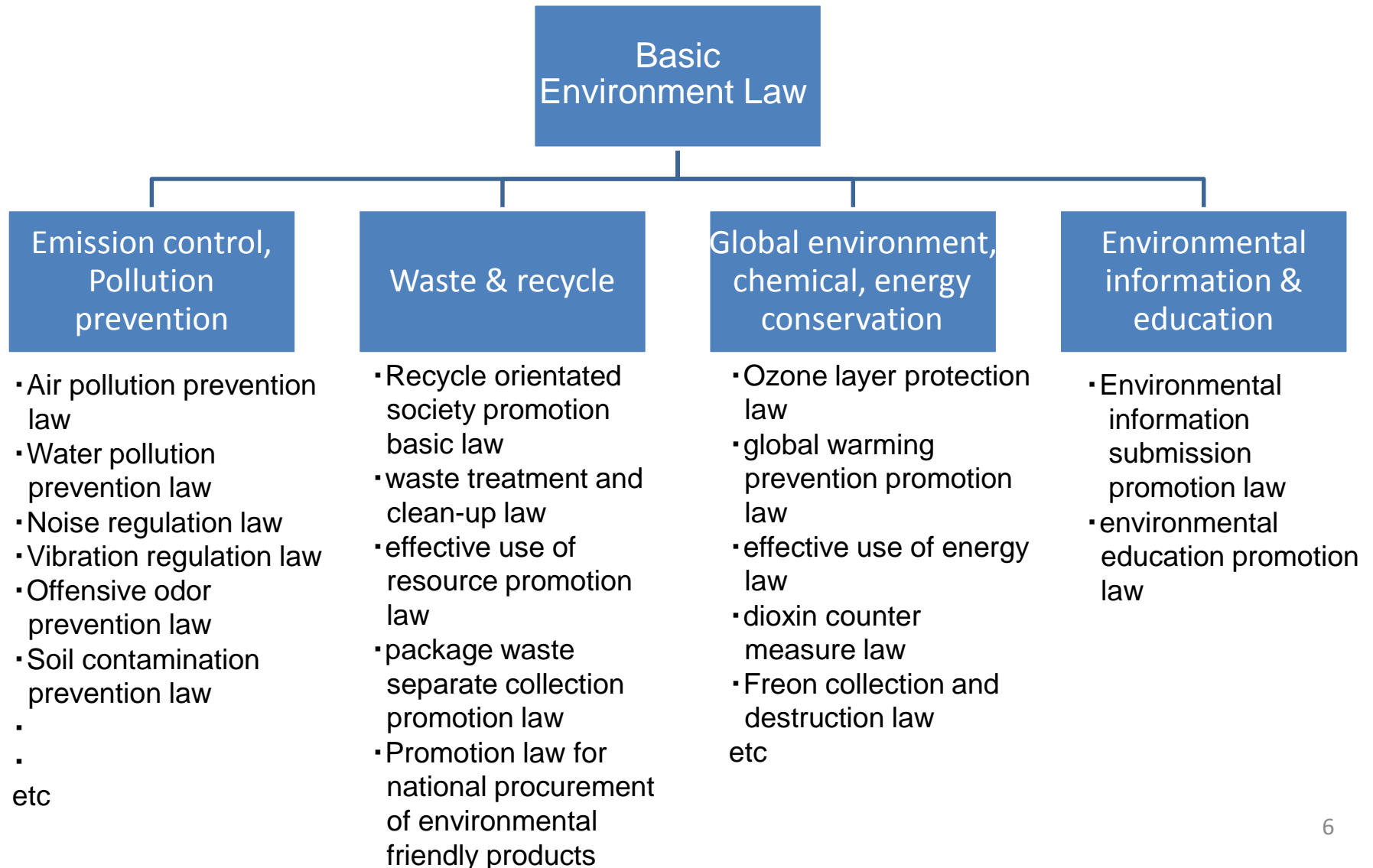
Value Creation Committee	<ul style="list-style-type: none"> ▪ Market trend research ▪ Intellectual property study & enlightenment ▪ digital press promotion ▪ printing terminology glossary editing ▪ world skill preparation
Corporate Ethics Committee	<ul style="list-style-type: none"> ▪ Personal information protection promotion activities ▪ Taxation system, subcontracting regulation, regulation revision seminars etc ▪ Promotion of woman workforce utilization ▪ Labor safety
Global Environment Committee	<ul style="list-style-type: none"> ▪ Promotion of Environmental Voluntary Action Plan ▪ Waste paper recycling promotion activities ▪ Package recycling regulation compliance survey ▪ Green printing certification
Public Relations Committee	<ul style="list-style-type: none"> ▪ "Month of Printing" promotion ▪ Planning & promoting 4 printing related competitions (Calendar, Catalog, Book and Package) ▪ Promoting public awareness of printing industry ▪ Promoting international relation with WPCF & FAPGA

1. History of Environmental Issues in Japan

- 1868 - 1964: Since start of industrialization in Meiji era, air and water pollution started to spread.
- 1965-1971: Economic growth drove air & water pollution further and nature destruction becomes big political issues.
Basic Act for Environmental Pollution Control (公害対策基本法) being established and Environmental Protection Agency being setup.
- 1972-1985: Anti-pollution measures by industries have been improved and more attention was directed to city & life style pollution including gas emission from automobiles.
- 1986-now: Global warming and biodiversity becomes global issue. “Sustainable Development” becomes global common understanding.



2. Basic Environment Law (環境基本法)



3. Voluntary Action Plan on the Environment (環境自主行動計画)

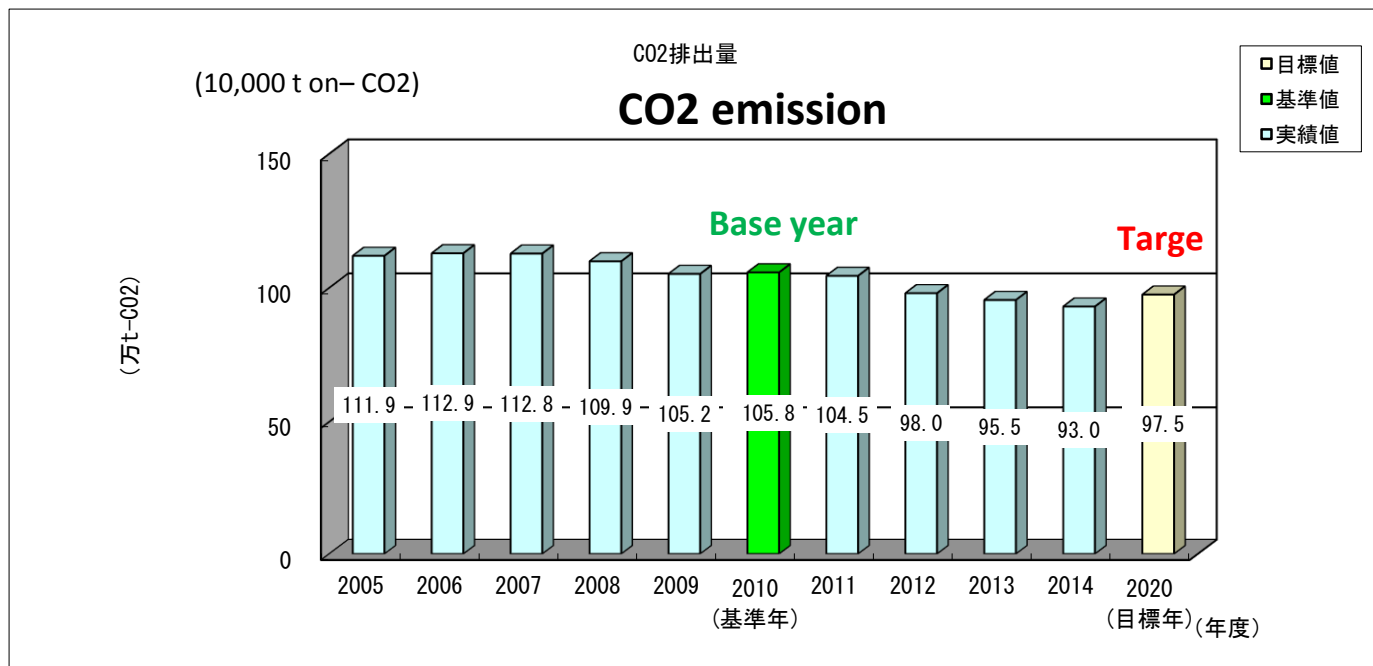
Since 1997, Keidanren(Japan Business Federation) has been organizing and promoting voluntary action plan on the environment to realize "sustainable development" as envisioned by the Basic Environmental Law of Japan.

61 major industry segments join the action plan

(<http://www.keidanren.or.jp/en/policy/index07.html>)

JFPI has been participating Voluntary Action Plan on the Environment since 2005.

Base year 2010 and
target for 2020 as
975,000 ton – CO2



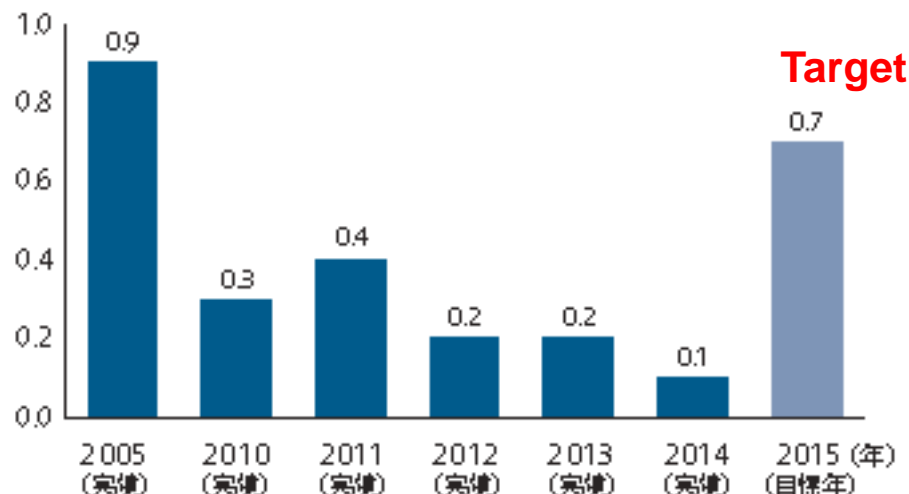
Transition of Industrial waste landfill

【産業廃棄物最終処分量実績の推移】

(Unit:10K ton)

(単位：万トン)

Target for 2015 7000ton/year



Transition of VOC emission

【VOC 排出量実績の推移】

(unit: ton/year)

(単位：トン/年)



Base year 2000
target for 2010 and there after
68,100 ton/year

Base year

4. Green Printing Certification Scheme

Green Printing Certification scheme was set up by JFPI in 2006. It is design to provide more clear guideline to achieve environmentally friendly printing operation to SME printing companies.

GP Certified Factory (categories)

Offset printing

Seal printing

Gravure printing

Screen printing

Certify factory production
process and procedures with
Environmental consideration

**GP Factory
Certification**

Certify consumable and
equipment with
Environmental consideration

**GP Consumable/Equipment
Certification**

Certify printing product
With
Environmental consideration

**GP Product
Certification**

4-1. GP Consumable/Equipment Certification Criteria

Consumable and equipment are certified with take into following points.

- Cleaning solvent/ dampening solution/ developer:
PRTR regulation, Organic solvent poisoning law, Fire prevention law, Offensive Odor Control Law , Ozone layer prevention law, RoHS, VOC reduction, package recycling etc
- Plate: CO2 emission reduction, recycling, waste liquid reduction etc.
- CTP/developer: Power consumption reduction, developer liquid reduction & waste reduction etc.
- Digital press(dry toner type): none use of hazardous substance, power consumption reduction, components recycling etc.

GP Certified Consumable/Equipment list:

<https://www.jfpi.or.jp/greenprinting/system/index.html>

4-2. GP Factory Certification Criteria (examples)

- Sales & Marketing: To have environmental consideration standard in planning process.
- Prepress: DTP process must be more than 50%(or 100% silver recovery from waste liquid or prepress film)
- Plate making: 100% recycle on aluminum
- Offset printing: Waste cloth bin and cleaning solvent container should have lid to prevent spread of VOC.
- Offset printing: More than 80% of waste paper to be recycled.
- Offset printing: Web press should have VOC exhaust device.
- Digital printing: Active use of energy save mode
- Digital printing & surface processing: More than 80% of waste paper to be recycled.
- Surface processing: Usage of alcohol should be less than 30%.
- Binding: Windows and doors to be kept shut to reduce noise and vibration.
- Binding: More than 70% of waste paper to be recycled.
- Logistics: Idling stop for delivery truck to be implemented]

(There are 70 criteria to be reviewed and should pass 70% of criteria)

4-3. Requirements to be certified as GP products

In addition to be certified as GP factory, following material to be used in order to be certified as GP product. If it meets all requirements, it can use GP mark to indicate the product satisfied all requirements.

- Paper: Should use waste paper or pulp from managed forest, it should have recycle adaptability etc.
 - (level 1) total evaluation score more than 80: indicated at paper manufacturer website
 - (level 2) Forest certification paper, non-wood paper, timbers from forest thinning, recycled paper(more than 50% waste paper content)
- Ink: Should not include negative list material, low VOC, good recycle adaptability etc.
 - (level 1) Non VOC ink, recycle compliant UV ink
 - (level 2) vegetable oil
- Surface treatment material: Low VOC, offer long durability or good recycle adaptability
 - Non-solvent type, low VOC type coating, Poly-Propylene lamination
- Binding material: Good recycle adaptability
 - hardly-disintegratable hot-melt (recycle compliant), Polyurethane hotemelt

4-4. Progress of GP Certification

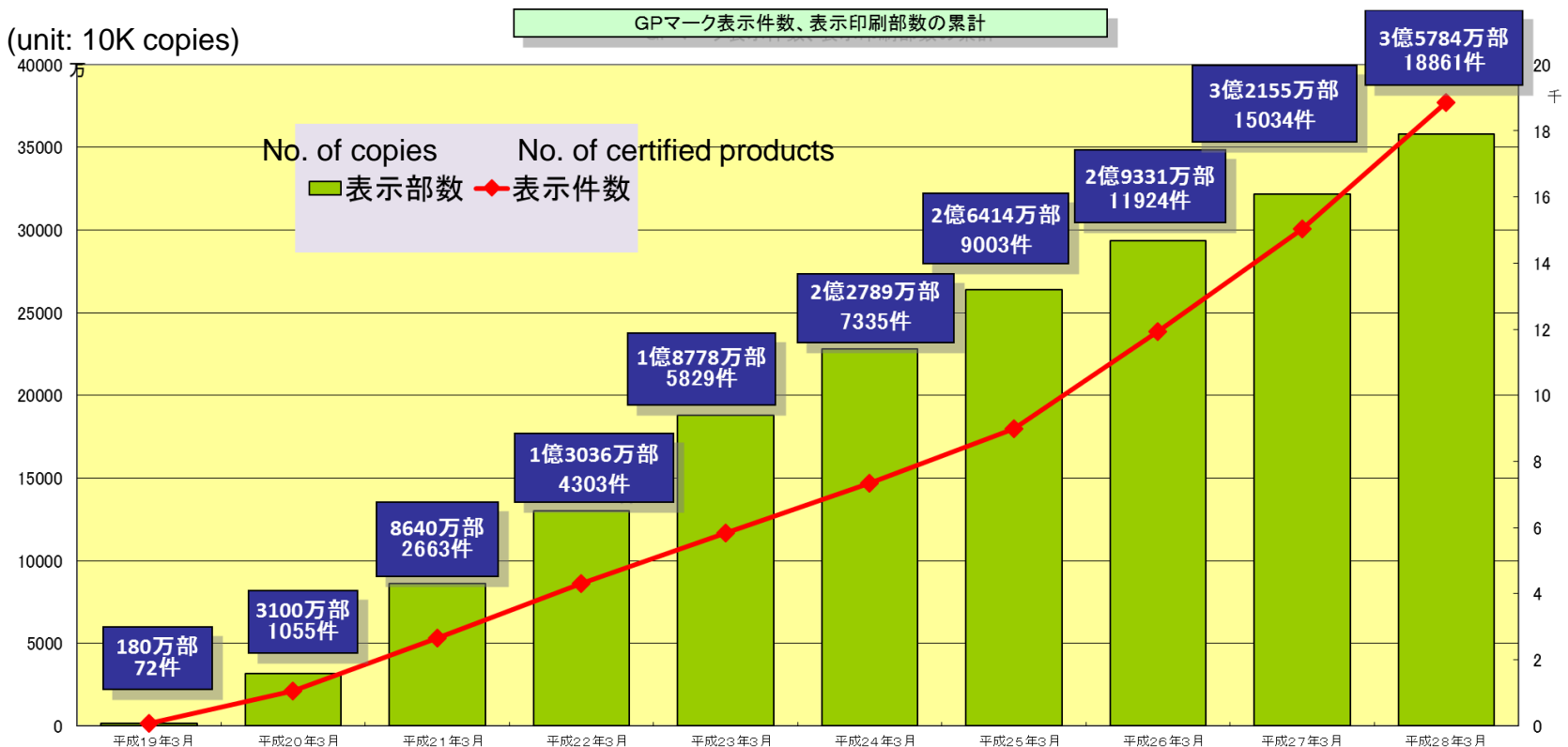
- 583 GP Certified Consumable/Equipment
- 359 GP certified factories (as of July 2016.)
279 for offset category, 56 for gravure, 20 for seal, 4 for screen printing

• GP certified product

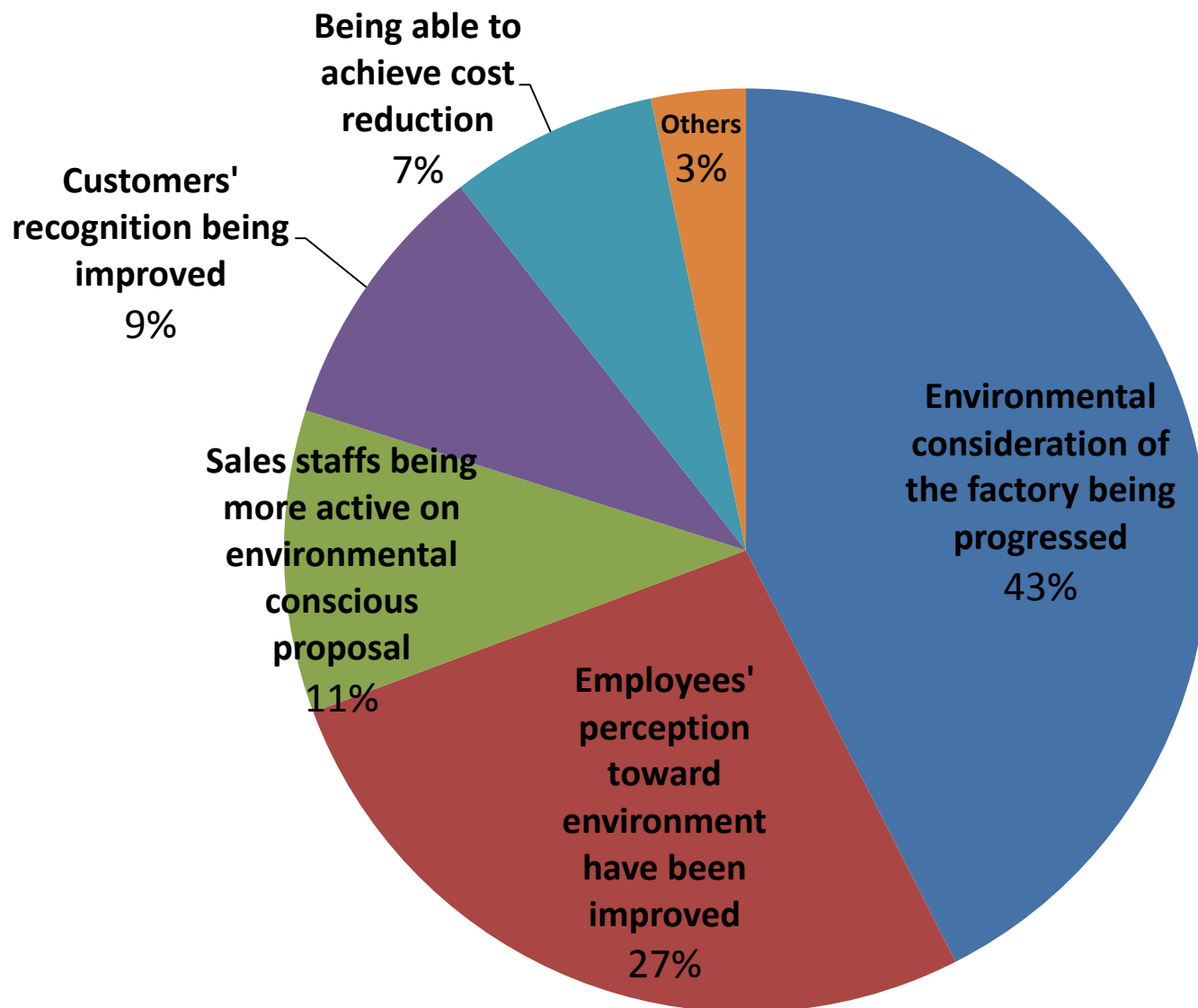
Accumulated No. of GP Products

(unit: 1000 products)

(unit: 10K copies)



4-5. What is the benefit of GP Factory Certification



4-6. Promotion activity of GP

- Create mascot character “Gippy”
- GP Eco Awards
Established GP Environmental Award in 2015 to commend companies & organizations who pay attention to choose environmentally friendly GP certified products.



2015 Winners were
East Japan Marketing & Communications
(JR Higashi Nihon Kikaku)
Honda
Japan Automobile Federation
Marui Group
TOMY COMPANY



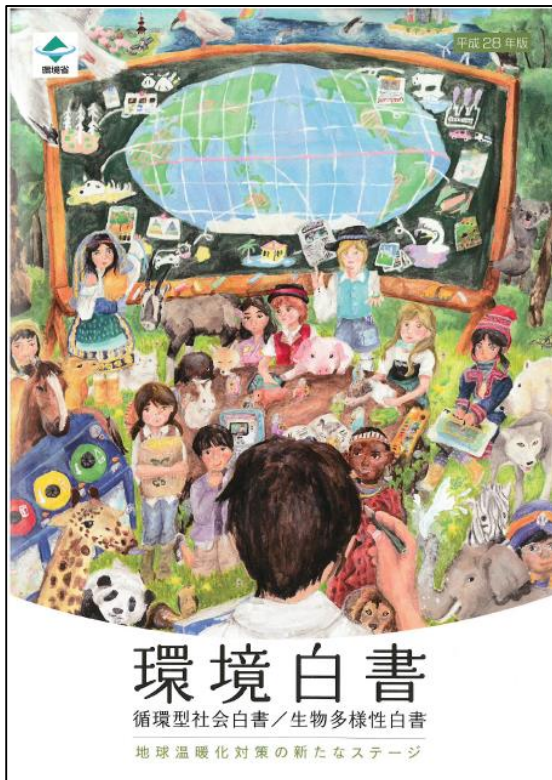
4-7. Example of GP mark

Number of stars represent
level of environmental
consideration level

Specific number is assigned to
each GP certified factory



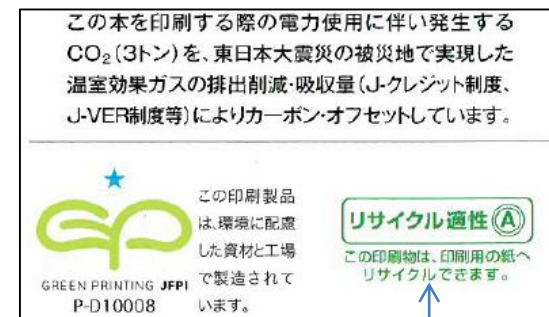
Environmental White Paper



Front page



Back page



GP mark

Recycle adaptability
rank A

5. Recycle Compliancy Printed Product

- Promotion of Recycle Compliancy Printed Product

Recovered(waste) paper occupied 62% of raw material for paper in 2008. Usage of recovered paper had already reached 93% for cardboard paper but for printing paper, it was only 38% and it need to be improved to increase usage of waste paper.

In order to increase usage of recovered paper for printing paper, printed products have to be more optimized for recycling from the beginning.

- What is Recycle Compliancy Printed Products

Recycle Compliancy Printed Product is one which does not contain adverse material for recycling. JFPI has been working with Paper Recycling Promotion Center(NPO established by paper manufacturers) to establish rank assessment criteria and testing methods to establish rank A to D in level of recycling compliancy for paper, ink, treatment material and other material used for printing.

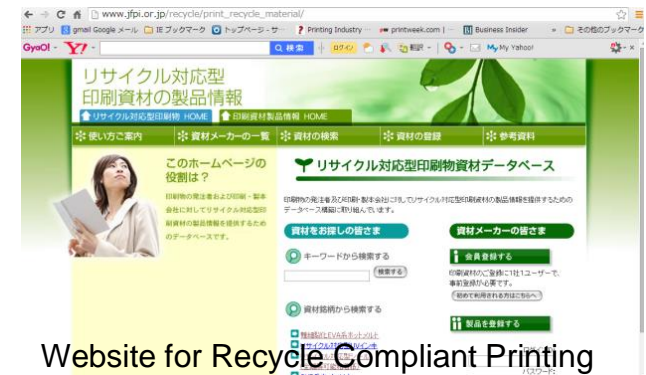
Rank A: One which can be recycled to printing paper

Rank B: One which can be recycled to cardboard paper

Rank C: Not suitable for recycling

Rank D: Hinder recycling even with small volume

If a printed product is made from rank A material only, the product will be recognized as rank A product. If some of material is from rank B, it will be recognized as rank B.



Website for Recycle Compliant Printing Material DB

https://www.jfpi.or.jp/recycle/print_recycle_material/

Concept of the scheme for recyclable prints

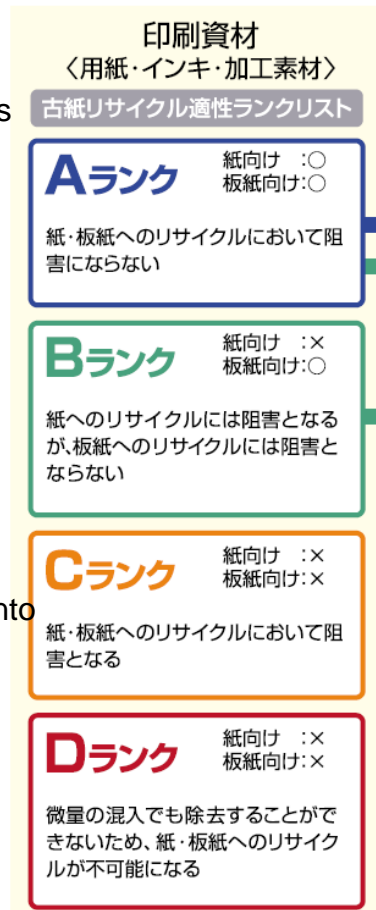
Material used
(paper, ink, adhesives
etc)

Rank A
Can be recycled to
paper and cardboard

Rank B
Can be recycled to
cardboard but not for
print paper

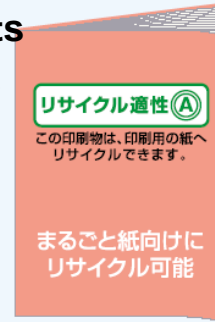
Rank C
Cannot be recycled into
paper or cardboard

Rank D
Damage recycling
process even small
volume inclusion



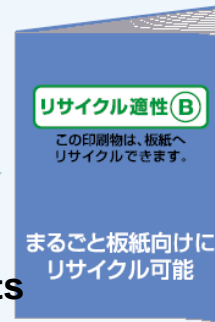
**Rank A
products**
製作

リサイクル
対応型印刷物



リサイクル

**Rank B
products**
製作



リサイクル

古紙の用途
〈紙・板紙〉 Usage of recovered paper



Paper
newspaper,
brochures,
magazine,
books



Paperboard
paper box,
children's book,
corrugated board,
cardboard

Waste recycle adaptability rank list
is indicated at each manufacturer
(paper, ink, adhesive etc)

Table 1 : Recycle-Compliance Ranking Test for Used Paper

	Rank A	Rank B	Rank C	Rank D
	Will not interfere when recycling into paper or cardboard	Will interfere when recycling into paper, but will not interfere when recycling into cardboard	Will interfere when recycling into paper or cardboard	Cannot be recycled into paper or cardboard as even small amounts cannot be removed
(1) Paper	Regular paper Construction paper, coated paper, high quality paper, medium quality paper, straw paper	-	-	-
	Processed paper *Colored paper (Rank A), *fancy paper (Rank A), Resin permeated paper (water soluble)	Processed paper *Colored paper (Rank B), *fancy paper (Rank B), paper coated with resin such as polyethylene, etc., paper laminated with resin such as polyethylene, glassine paper, India paper	Processed paper *Colored paper (Rank C), *fancy paper (Rank C), resin permeated paper (excluding water soluble types), sulfate (parchment) paper, tarpaulin paper, wax paper, cellophane, synthesized paper, carbon paper, carbon-less paper, thermal paper, solderless paper	Processed paper Sublimation transfer paper, thermal foam paper, aromatic paper
(2) Inks	Regular inks Relief printing inks, flat printing inks (offset printing inks), gravure ink solvent, flexo-ink solvent, screen inks	Regular inks Water based gravure ink, water based flexo-ink	-	-
	Specialty inks *Recycle-ready UV ink, Silver and gold ink for offset printing, pearl ink, OGR ink (oil-based)	Specialty inks UV ink, silver and gold ink for gravure printing, OGR UV ink, EB ink, fluorescent ink	Specialty inks Thermal ink, low sensitivity ink, magnetic ink	Specialty inks Sublimating ink, foam ink, aromatic ink
	Specialty processing OP varnish	-	-	-
	Digital Printing Inks *Recycle compliance Dry Toner	Digital Printing Inks Dry Toner	-	-

Waste Recycle Adaptability Rank List

Prepared by JFPI and Paper Recycling Promotion Center

	Rank A	Rank B	Rank C	Rank D
(3) Processing material	Binding Processing Binding wire, stapler, etc.; *fine retardant EVA hot melt; *PUR hot melt; water based glue	Binding Processing Binding thread, EVA hot melt	Binding Processing Cross coating (cloth cross, paper cross)	-
	Surface processing Glossy coat (varnished, press coating)	Surface processing Glossy laminating (PP coating); UV coating; UV laminating; foil coating	-	-
	Other processing Recycle-compliant seals (all dissolve adhesive paper)	Other processing Seals (with the exception of recycle-compliant types)	Other processing Three dimensional printed material (lenticular lens used)	-
(4) Others		Foreign substance Adhesive tape (recycle-compliant)	Foreign substance Stone, glass, metal (excluding binding stapler, metal, etc.), sand, wood chips, plastic, cloth, building material (gypsum board, etc.), non-woven cloth, adhesive tape (excluding recycle-compliant types)	Foreign substance Fragrant accessories (deodorant, perfume, lipstick, etc.)

Note:

Thank you for your listening.
谢谢您的收听

