## **Dual loops of paper carton recycling**



## Grow

Appropriately managed forestry practices absorb atmospheric carbon dioxide and discharge



Life cycles of a forest

Life span of 50 to 100 years

Base paperboard used for paper carton will not be exhausted. Acicular trees in North America and Northern Europe are mainly used for production of base paperboard for carton. Forests of acicular trees have been managed according to forestry certifications, and tree trimming, planting of seedlings and growing processes are conducted systematically. Acicular trees in North America are raised for approximately 50 to 80 years, and in Northern Europe they are raised for approximately 70 to 100 years.

## Use

#### Wood is used with zero waste.

Logged trees are primarily used for construction materials and furniture. Wood chips made from thin timber from forest thinning activities, edge trims resulting from manufacturing of construction materials, and branches are used as raw material to produce paper. Long fibers of acicular trees are suitable for processing of durable paper cartons.



timbers from forest thinning



Laminated portions are removed and the base paperboard portion is dissolved. At this point, foreign substances such as residual ink are

**Reborn as Recycled Products** 

## high-quality resource. It is reborn as recycled products.

A used paper carton is a

#### Paper cartons have small environmental footprint\*

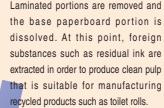
CO2 emissions from a 1,000 ml paper carton total 32.4 g, and the environmental footprint is very small. Moreover, recycling a 1,000 ml paper carton reduces CO2 emissions by 23.4 g.

Source: Institute for Policy Analysis and Social Innovation "2004 Report of Survey on Life Cycle Assessment of Containers and Packaging" (Entrusted by the Ministry of the Environment)

## Paper recyclers and wholesalers of used papers

Paper cartons are sorted and transported to the paper manufacturers.

## Paper manufacturers









# Collection

## <sup>1</sup> Wash <sup>2</sup> Open 3 Drv

## Collection sources include

store collection at supermarkets and other similar stores, municipality collection, group collection by citizen's groups, and collection at schools.

## **Plant**

Trees in both regions are subject to controlled thinning.





Seedlings are picked from parent trees, grown in nursery grounds on a massive scale, and then systematically planted in the lands after harvesting.



and manufacturing

Materials for construction

## **Paper cartons**

Paper cartons refer to a container of milk. liquid dairy products, juices, etc. that does not have an inner layer of aluminum laminated. In addition to 1,000 ml, 500 ml and 200 ml containers are also collected.







Dry

### **Milestones**



Fiscal ye	Milestones Milestones	Applicable laws
1984	A group of housewives started a milk carton recycling movement to teach their children to recognize the value of things.	дриодые тама
1985 to 1993	"Japan Milk Carton Recycling Association" was established (1985).  "Committee for Milk Container Environmental Issues" was established (1992).  "Milk carton recycled products mark" was created (1992).  The Committee participated in "Forestry Fair" held by the Forestry Agency (the Committee participated every year from 1993 to 2008).	●The Basic Environment Law was enacted (1993).
1995	"Basic survey on the present status and trends of beverage paper container (paper carton) recycling" was started.	Containers and Packaging Recycling Law was enacted.
1996	"The Beverage Paper Container Recycling Council" was established.	
1997	National case study on milk carton collection system was conducted.	<ul> <li>Containers and Packaging Recycling Law was enforced.</li> </ul>
1998	Model project for promotion of milk cartons used for school meals was started (Hokkaido).  An experimental projected was implemented to build a collection and recycling system of milk cartons used for school meals (Fukuoka and Hyogo).  Convivial meetings were held to promote collection of beverage paper containers (Locations of meeting *1).	
1999	★ Local conference to promote paper carton recycling was held (this has been continuing since *1).	
2000	The Paper Carton Identification Mark was voluntarily established.  Discussion Meeting to Promote Recycling of Paper Cartons for Beverages was started (this has been continuing since).	Containers and Packaging Recycling Law was completely enforced.  Basic Law for Establishing the Recycling-Based Society was enacted.  Law for the Promotion of Effective Utilities of Resources was enacted.
2001	Movement for expansion of milk carton collection centers was started (Provision of collection boxes to local communities).	<ul> <li>Act on Promoting Green Purchasing was enacted.</li> </ul>
2002	A symposium commemorating the 10th anniversary of the Committee for Milk Container Environmental Issues was held.  Activities to expand milk carton collection centers to 10,000 locations was started.  Survey on Paper Carton Life Cycle Assessment (LCA) was started (this has been continuing since).	
2003	* Survey on paper carton LCA in North America was conducted.	
2004	Environmental campaign was started (executed during Environment month and the 3R month each year).  Workshop on milk carton recycling was held (this has been continuing since *2).  Participated in one of the largest class environmental-related exhibitions, called  "Eco-Product Exhibition 2004" (this has been continuing every year).  Participation in "Eco-product 2004".	Review of Containers and Packaging Recycling Law was started.
2005	Goal of the paper carton collection rate in fiscal 2010 was set to 50% or greater.  The voluntary action plan for promoting 3R of containers and packaging was announced (The Beverage Paper Container Recycling Council).  The website for children's environmental education called "Milk Packn's Expedition" was started.  Survey on paper carton LCA in Northern Europe.	
2006	20th anniversary memorial meeting of JAMRA.	Revised Containers and Packaging Recycling Law was enacted.
2007	"Plan 2010 - Action Plan for Recycling of Paper Cartons for Beverages - Toward collection rate of 50%" was established and published.  Participated in the main event of the environmental moth "Eco-fair 2007" (this has been continuing every year).  Supported "Friendly environment loop - Recycling Association" (this has been continuing every year).  Survey on paper carton LCA in North America was conducted.  Onsite lessons on milk carton recycling was started (this has been continuing since *3).  The movement for further expansion the number of milk carton collection centers (20,000 locations were targeted).	
2008	Participated in the Toyako Summit Memorial General Environmental Exhibition 2008.  Conference on employment of CTMP for beverage cartons.	<ul> <li>Revised Containers and Packaging Recycling Law was completely enforced.</li> </ul>
2009	★ A book "Paper Carton Manifesto" was published.	
2010	★ "Milk Packn's Expedition" DVD was produced.	

The 1st Japan and Korea Forum on Processed Milk Industry Environmental Management (in Seoul, Korea).

Fiscal year	Short history	Applicable laws
2011	"Real Story of Paper Carton Recycling" pamphlet was published. Onsite lessons on paper carton recycling was held for the leaders of the movement in Korea (in Korea). Provision of collection boxes to 20,000 locations was achieved. "Plan 2015 - Action Plan for Recycling of Paper Cartons for Beverages" was established and published. The second voluntary action plan for promoting 3R of containers and packaging was announced (The Beverage Paper Container Recycling Council). Certified as PCR of "milk". The 2nd Japan and Korea Forum on Processed Milk Industry Environmental Management (in Osaka).  "Milk Carton Recycle Mark Promotion Council" was established.	
2012	New organizations for operation of the Committee were started (General Affairs, local organizations, Event Committee).  The 3rd Japan and Korea Forum on Processed Milk Industry Environmental Management (in Kyongju, Korea).  Survey on paper carton LCA in Northern Europe was conducted.  Workshop at a commercial facility "Ginza Mitsukoshi" (Tokyo).	
2013	A symposium commemorating the 20th anniversary of COMCEI was held.  A booklet "Story of Waste" was published.  Workshop at a commercial facility "Ario Hashimoto (Sagamihara City)".  and "LaLa garden Nagamachi (Sendai City)".	Review of the Revised Containers and Packaging Recycling Law was started.
2014	Composition analysis of paper cartons in Matsudo City.  **Workshop at a commercial facility "Isetan Matsudo Store (Matsudo City)" and "LaLa garden Nagamachi (Sendai City)".	
2015	Composition analysis of paper cartons (Machida City).  "Milk Carton Recycling - Nationwide Collection of 20 Cases" 4th volume published.  "Discussion meeting with paper manufacturers associated with paper carton recycling" was held.  "Friendly environment loop forum - 30th anniversary memorial meeting of JAMRA".	
2016	"Plan 2020 - Action Plan for Recycling of Paper Cartons for Beverages" was established and published.  The third voluntary action plan for promoting 3R of containers and packaging was announced (The Beverage Paper Container Recycling Council).  Survey on paper carton LCA and fact-finding survey on paper carton recycling in North America was conducted.  Leaflet of "Real Story of Paper Carton Recycling" was published.  The theme this year was "The State of Required Paper Carton and Its Suitability for Recycling".	Review of the Revised Containers and Packaging Recycling Law was completed.
2017	Implemented metropolitan bus advertising campaign ("Milk Packn" Bus)  The committee published the brochure "Recycling Workshops for Adults and Children to Create Crafts with Milk Cartons."  "Friendly Environment Loop Forum - Considering the State of Paper Carton Recycling by Looking at Overseas Recycling Policies and Japan's Legal System for Resource Circulation."	

#### \*1 Venues of local conference to promote paper carton recycling (1998 to 2017)

Hokkaido, Hakodate, Aomori, Iwate, Miyagi, Fukushima, Yamagata, Niigata, Nagano, Shiga, Gunma, Warabi, Saitama, Chiba, Ibaraki, Tokyo (northern area) (23 wards), Akishima, Kanagawa, Yokohama, Kuwana, Kasuga, Shizuoka, Gifu, Ishikawa, Fukui, Mie, Aichi, Osaka, Kyoto, Hyogo (Kobe and Hanshin area), Akashi, Shimane, Okayama, Hiroshima, Tokushima, Ehime, Kochi, Fukuoka, Kitakyushu, Oita, Saga, Kumamoto, Okinawa

#### \*2 Venues of paper carton recycling workshop (2004 to 2017)

Asahikawa City, Sapporo City, Saitama City, Fujimi City, Shibuya Ward, Shinagawa Ward, Koto Ward, Nakano Ward, Kita Ward, Nishitokyo City, Yokohama City, Atsugi City, Sagamihara City, Yokoshibahikarimachi (Chiba Prefecture), Otsuki City, Kofu City, Shimizu Town (Shizuoka Prefecture), Chikusei City, Kasugai City, Nisshin City, Osaka City, Nishinomiya City, Matsuyama City, Itano Town (Tokushima Prefecture), Kochi City, Beppu City, Naha City

#### \*3 We visited the following schools to run the on-site lessons on milk carton recycling (2007 to 2017)

Aomori City Izumikawa Elementary School, Sendai City Nakayama Elementary School, Sendai City Shoryo Elementary School, Sukagawa City Abukuma Elementary School, Sukagawa City Abukuma Elementary School, Chikusei City Ueno Elementary School, Chikusei City Isa Elementary School, Motegi Town Motegi Elementary School, Haga Town Hagaminami Elementary School, Nogi Town Tomonuma Elementary School, Ota City Chuo Elementary School, Misato City Tango Elementary School, Kawaguchi City Tozukaminami Elementary School, Koshigaya City Obukurohigashi Elementary School, Konosu City Akamidai Daiichi Elementary School, Ichihara City Chiharadaisakura Elementary School, Noda City Futakawa Elementary School, Shibuya Ward Kakezuka Elementary School, Edogawa Ward Shinozaki Daini Elementary School, Nishitokyo City Mukoudai Elementary School, Machida City Oyama Elementary School, Ome City Imai Elementary School, Yokohama City Elementary School, Yokohama City Hie Elementary School, Natarato City Sunashima Elementary School, Vokohama City Hie Elementary School, Natarato City Sunashima Elementary School, Vokohama City Sunashima Elementary School, Nomagane City Akaho Elementary School, Natarato City Sunashima Elementary School, Natarato City Akaho Elementary School, Natarato City Sunashima Elementary School, Macarato City Izumino Elementary School, Natarato City Mukawa Elementary School, Natarato City Togendai Elementary School, Natarato City Izumino Elementary School, Natarato City Natarato City Tamanaka Elementary School, Nisshin City Higashi Elementary School, Nisshin City Nishi Elementary School, Natarato City Tamanaka Elementary School, Nishinamise Town Nantohigashi Elementary School, Natarato City Makaba Elementary School, Nishinamachi Elementary School, Nishinamachi Elementary School, Nishinamachi Elementary School, Nishinamachi Elementary School, Hiroshima City Niko Elementary School, Hiroshima City Niko Elementary School, Hiroshima City Niko Elementary School, Nishina Elementary School, Nishina Elementary School, Nishina Elementary S

## **COMCEI** publications

## **Members list**



The Committee provides DVDs and leaflets that explain the benefits of paper cartons and illustrates how they are recycled.

#### DVD "Milk Packn's Expedition"

COMCEI has prepared a detailed DVD version of a website called "Milk Packn's Expedition" that is targeting at elementary school students. This is an educational tool that helps them think about the environment and learn the importance of initiating their own activities. We send it free of charge to schools and organizations that apply.



DVD "Milk Packn's Expedition

#### "Recycling Workshops for Adults and Children to Create Crafts with Milk Cartons"

With the instructions by NPO Corporation "Yuimaru," we created the booklet illustrating how to make beautiful crafts out of used paper cartons. We also communicate that the leftover materials of cartons after enjoying crafts can be recycled in this booklet. This can be useful for your craft making events.



"Recycling Workshops for Crafts with Milk Cartons"

#### "Story of Waste"

"Real Story about Paper Carton Recycling" has been edited for children and features interesting illustrations of Milk Packn.



"Story of Waste!



"Real Story of Paper Carton Recycling"

#### "Story of Milk Cartons"

It is for early elementary school children. It shows the life of a milk carton - from its birth to finally being recycled into a new product - in an easy to understand manner using cartoons. This publication is recommended for use in events such as workshops where many visitors bring their children.



"Story of Milk Cartons

#### "Recycling Workshop for Creating and Playing with Milk Cartons"

This book is full of ideas such as how to make postcards from handmade paper and how to craft objects out of milk cartons. It is distributed in events such as recycling workshops and ecolife fairs.



Recycling Workshop for Creating and Playing with Milk Cartons

#### Book "Paper Carton Manifesto"

This book details characteristics of paper cartons and recycling activities in order to submit recommendations for the future of our planet while enhancing consciousness about the meaning of recycling. The writers include Mr. Inose, president of ECOIPS, Ms. Hirai, representative of JAMRA, and seven members of COMCEI, among others.



Book "Paper Carton Manifesto" Nihon Hyouron Sha

#### "Milk Carton Recycling - Nationwide Collection of 20 Cases" 4th volume

Separate collection of paper cartons requires community people's understanding of the recycling and creative ideas in the collection. This case book introduces actual recycling activities carried out by citizen's groups, local governments and various business sectors throughout Japan to assist readers when they are confronted with problems.



"Nationwide Collection of 20 Cases" 4th edition

#### 3 related associations

Japan Dairy Industry Association Japan Dairy Association Federation of Milk Processors Co-operatives

#### 7 Carton manufacturers

Nippon Paper Industries Co., Ltd. Nihon Tetra Pak K.K. ISHIZUKA GLASS Co.,Ltd, Dai Nippon Printing Co.,Ltd. TOPPAN PRINTING CO.,LTD. BF&Package Co., Ltd. TOKYO PAPER MFG, CO.,LTD

#### 122 dairy companies

#### [Hokkaido]

Yotsuba Milk Products Co., Ltd. Satsuraku Dairy Agricultural Coop HOKKAIDO HOSHO MILK PLANT Co.,Ltd. SHIN SAPPORO NYUGYO CO., LTD KUMIAI DAIRIES LIMITED Hokkaido Milk Product Co.,Ltd. Hakodate Milk Hokkaido Dairy Corporation Co., Ltd. MACHIMURA FARM .Inc. kurasimamilk.Co.ltd. TOYOTOMI MILK PRODUCTS

#### [Aomori]

HAGIWARA MILK PLANT Co.Ltd.

#### [Iwate]

Fujiya Milk Co., Ltd.

#### [Miyagi]

TOUHOKU MORINAGA MILK INDUSTRY CO., LTD furukawa milk industry Co. Ltd YAMADA MII K PRODUCTS Michinoku Milk Co.,Ltd. Touhoku Glico Dairy Products Co.,Ltd

#### [Yamaqata]

Fuji Milk Co., Ltd. GOTO Farm Co.,Ltd Ohu Dairy Cooperative

#### [Fukushima]

Rakuou milk products Co.,Ltd. Tohoku-kyodo Milk industry Co., Aizu Chuoh Nyugyo Corporation Matsunaga milk Co., Ltd. Fukushima Milk Co., Ltd.

#### [lbaraki]

IBARAKI DAIRY PRODUCT INDUSTRY CO., LTD. TOMOE DAIRY PROCESSING CO., LTD Ibaraku Co..Ltd. KANTO MILK INDUSTRY CO., LTD.

#### [Tochigi]

Harigai Milk Industry Co., Ltd. Tochigi Meiji Milk Co. Ltd Tochiqi Milk Co., Ltd. HORAI Co.,Ltd.

#### [Gunma]

Haruna Dairy Cooperatives Tomo Dairy Cooperative GUNMA MILKJOINT BUSINESS COOPERATIVES [Saitama] MORI MILK Co., Ltd. SEIBU RAKUNOU

JA Saihoku Rakunou

osawa milk Co., Ltd.

FURUYA MILK PRODUCTS CO..LTD Chiba Hokubu Rakuno Dairy Cooperative Chiba-raku Dairy Cooperative

#### [Tokyo]

MEGMILK SNOW BRAND Co., Ltd Meiji Co., Ltd. MORINAGA MILK INDUSTRY CO.,LTD. KYODO MILK INDUSTRY CO.,LTD. KOIWAI DAIRY PRODUCTS CO., LTD. Koshin Milk Products Co Ltd [Kanagawa]

Takanashi Milk Products Co. Ltd. YOKOHAMA MILK INDUSTRY CO.,LTD. KONDO MILK PRODUCTS CO.,LTD. Ashigara Milk Products Co., Ltd. Kvoudou Milk Co., Ltd.

#### [Nagano]

MATSUDA MILK co.ltd [Niigata] Niigata-ken Nokyo Milk Co., Ltd. HARADA Daily Products.CO.,LTD. Tsukada Milk Products.Co.LTD

Sado Milk Products Ltd.

YATSUGATAKE MILK Co..Ltd.

#### [Toyama]

Tonami Milk Co., Ltd. Kokuto milk [Ishikawa] i-Milk Hokuriku Co.,Ltd.

#### [Gifu]

Bokuseisha Ltd. Seki Milk Co., Ltd. Mino Dairy Cooperatives

Hida Rakuno Dairy Cooperative

#### [Shizuoka]

INASA MILK ASSOCIATION Kannami toubu nougyoukyoudou kumiai TOKAI MEIJI.CO.Ltd Asagiri Milk Products Co..Ltd [Aichi]

CHUOSEINYU CO.,LTD. Aichi Brother Company Co., Ltd. TOKONAME MILK LIMITED PARTNERSHIP COMPANY

#### [Mie]

Ouchiyama Dairy Agricultural Cooperative

#### [Kyoto]

HIRAYA MILK JA Kyoto Rakuno Center

SEN-NAN Dairy Products Co.,Ltd. NIPPON DAIRY CO-OPERATED CO.,LTD. Vitamin Milk Products Co..Ltd Ikaruga Milk Plant CO.,Ltd. EZAKI GLICO CO.,LTD.

#### [Hyogo]

TAMBA MILK CO.,LTD. Awajishima Milk Co., Ltd. [Tottori] DAISEN Dairy agricultural cooperative

KISUKI Daily Product

#### [Shimane]

Yasugi Milk Product Co.,Ltd [Okayama] OHAYO DAIRY PRODUCTS CO.,LTD KAJIHARA MILKPRODUCTS CO.LTD HIRUZENRAKUNOU NOUGYOU KYOUDOU KUMIAI okayamanisinougyoukyoudoukumiai

#### [Hiroshima]

Sanyo Milk Industry Co., Ltd. TOYO MILK INDUSTRY CO..LTD. Hiroshima Kyodo Milk Industry Co., Ltd. Chichiyasu Co.,Ltd.

#### [Yamaguchi]

Yamaguchi Kenraku Milk industry Co.,Ltd houfurakunou agricultural cooperative Nishimotobokujou

#### [Kagawa] Shikoku Meiji Co.,Ltd.

[Ehime]

SHIKOKU MILK PRODUCTS CO.,LTD.

#### [Kochi]

Himawari Milk

#### [Fukuoka]

nishirakunyuugyou Co.,Ltd Omu Milk Products Co..Ltd NAGATOSHI-MILK CO., LTD

#### (Nagasaki)

SHIMABARA AREA DAIRY FARMERS COOPERATIVE

#### [Kumamoto]

KUMAMOTO DAIRY CO-OPERATIVE ASSOCIATION KUMAMOTO MILK INDUSTRY CO., LTD. Kuma Dairy Agricultural Cooperative

Limited Partnership (Corp.) HOTTA KOUNYUUSHA

KYUSYUNYUGYO CO.,LTD JA-Shimogo Kovama Dairies Co., Ltd

#### [Miyazaki]

MINAMI NIHON RAKUNO KYODO CO.,LTD

#### [Kagoshima]

kagoshimakenrakunounyuugyoukabushikigaisya

#### [Okinawa]

OKINAWA MEIJI MILK PRODUCTS CO..LTD. OKINAWA MORINAGA MILK INDUSTRY CO.. LTD. Mariva milk industry YAEYAMA GENKI Genki Seikatsu Co., Ltd. Miyahira Dairy Corporation

#### 13 supporting members

Oii Eco Materials Co.,Ltd NISHINIHON EIZAI CO..LTD Nissey Sangyo co.,Ltd. NIPPON PAPER CRECIA CO.,LTD DAIWA ITAGAMI CO., LTD. SHIN-EI PAPER MFG.CO..LTD. Marutomi Paper Company YAMADAYOUJI SYOUTEN CO., LTD. CRESCO Corporation WestRock Asia Co. Masukoo Paper Company Stora Enso Japan

Weyerhaeuser Japan Ltd.

As of the end of August, 2017



Dairy product companies and paper carton manufacturers collaborate to recycle paper containers such as milk cartons to preserve the environment.

#### Committee for Milk Container Environmental Issues

Postal Code 102-0073 Nyugyo Kaikan, Kudan Kita 1-14-19, Chiyoda Ku, Tokyo Phone: +81-3-3264-3903, Fax: +81-3-3261-9176 http://www.yokankyo.jp



#### A message to all members of associations and groups collecting paper carton

Your strong support to establish the system enabling collection of paper cartons on a regular basis and to request schools, local governments, public facilities, retail stores, and welfare organizations to install collection boxes at their premises is highly appreciated.

#### Contact

Japan Milk Carton Recycling Association (JAMRA) Phone: +81-554-22-3611, Fax: +81-554-56-9216 http://www.packren.org

If you do not know where paper cartons are collected, please contact the relevant section at your local government/public administration.



