

PAPER RECYCLING

MONITORING REPORT 2013



European Declaration on Paper Recycling
2011 - 2015

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Paper Recycling: Performing Consistently Well!

Since 2000, the European paper value chain has been committed to the two-fold aim of increasing recycling and joining efforts to remove obstacles hampering paper recycling in Europe. However, the situation in 2000 was very different to what we find today.

Now, the recycling rate is clearly starting to level out and keeping it at a high rate is becoming progressively more challenging. Not only are quantities changing but so are the different patterns in consumption. For example, telephone catalogues and directories have gone digital.

Likewise, the continuing sharp decline in newspaper consumption will significantly affect overall paper recycling levels, as newspapers are traditionally one of the best recycled paper products along with corrugated boxes.

Conversely, tissue and sanitary paper consumption is increasing but cannot be accepted for recycling for hygiene reasons.

Overall, 21% of paper consumption is not recyclable or collectable. Yet another reason why paper recycling rates are levelling out as we approach the maximum achievable level.

In 2013, paper was recycled in Europe at the impressive rate of 71.7%. This achievement is doubly remarkable considering the trend since the pre-crisis peak year of 2007: paper consumption in Europe has dropped by 14% whereas collection and recycling volumes have been retained at a very high level.

Despite these challenging circumstances, paper recycling has again continued to perform consistently well.

The large majority of the 11 countries currently still under a 60% recycling rate have reported an improved performance. In parallel, 13 countries have already exceeded the target 70% recycling rate. Paper fibre is now collected and recycled an average of 3.5 times in the 30 European countries, far exceeding the world-wide average of 2.4.

“Don’t worry, it’s simple!”

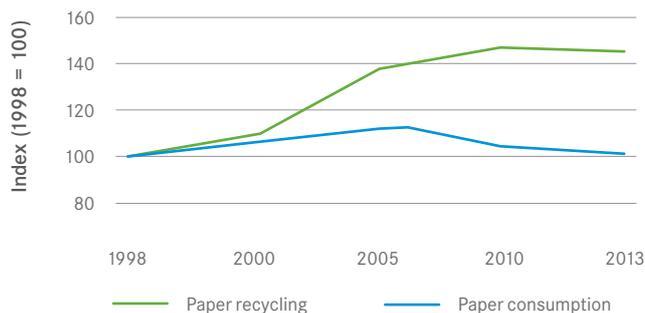
our mascot has been telling people in tens of thousands of offices across Europe over the last two years. We indeed want to keep it simple for citizens and consumers in Europe to recycle paper, both in their offices and homes.



Making recycling easy and simple year after year requires a huge effort by the paper value chain, and we are pleased to report the positive results!

Secure access to resources has become an increasingly strategic economic issue. Paper recycling is truly an industry “made in Europe”. In line with EU policies, this industry should be properly safeguarded to remain so. Paper recycling is ready and able to add more green jobs, skills and innovations to the European economy!

PAPER RECYCLING VS PAPER CONSUMPTION





Recycling Rate 2013: 71.7%

The recycling rate in Europe reached **71.7%** in 2013.

The total amount of paper collected and recycled in the paper sector remains stable at just over 57 million tonnes, despite the decreasing consumption of paper in Europe.

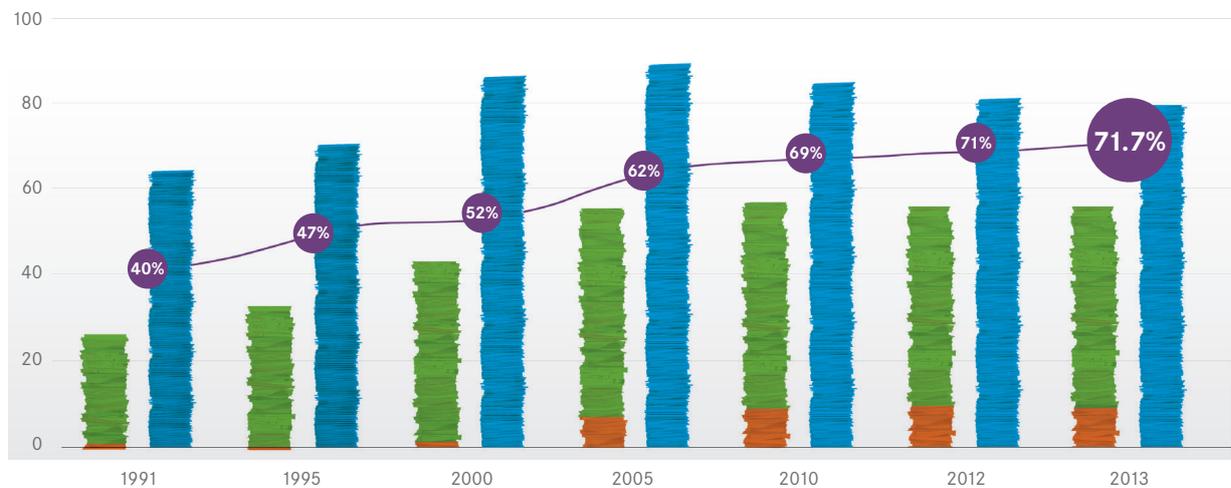
Recycling has increased by 45% (18 million tonnes) since 1998, the base year for the first voluntary commitment set

in the European Declaration on Paper Recycling. In strong contrast, consumption has dropped back to the 1998 level of 80 million tonnes.

A net volume of 8.3 million tonnes (14%) of the total 57 million tonnes was bought by third countries for recycling outside the commitment region of EU-27 plus Norway and Switzerland.

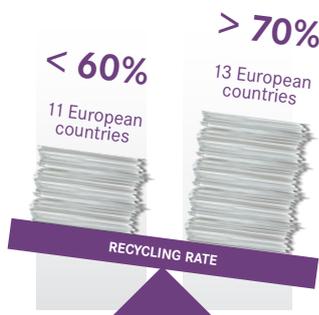
EUROPEAN PAPER RECYCLING 1991 - 2013

Million Tonnes



Source: CEPI 2013

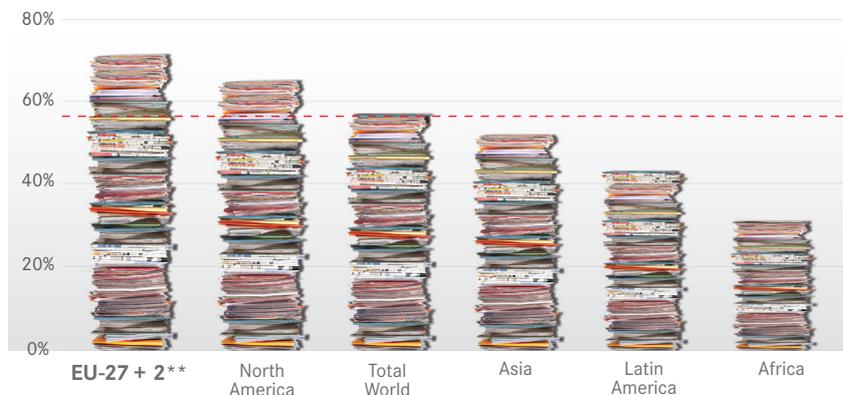
NATIONAL RECYCLING RATES IN EUROPE



13 European countries exceeded the 70% recycling rate. 11 European countries were below 60%, with 8 of them having significantly improved their performance compared to 2012.

Source: CEPI 2013

EUROPE IS THE PAPER RECYCLING CHAMPION!



Recycling rate in world regions in 2012*

* Source: CEPI, RISI - 2013 figures will be available in October 2014
 ** EU-27 + 2 : EU-27 + Norway and Switzerland



Progress in Qualitative Targets

ERPC members represent 12 sectors along the paper value chain. They have committed themselves to carrying out qualitative actions to improve the recycling rate by 2015 through joining the European Declaration on Paper Recycling.

Keeping up their consistently strong performance, ERPC members dedicated a substantial amount of their time to initiatives both facilitating the recycling process and increasing recycling activity. These notably include applying ecodesign to paper products.

ECODESIGN

Three important developments have taken place: an EU Ecolabel for converted paper products such as envelopes ensuring better recyclability, publication of the revised German ecolabel “Blue Angel” and development of a recyclability assessment method for paper-based packaging.

FEPE was actively involved in the development of the EU Ecolabel for converted paper products, adopted by the EU Ecolabel Board. The EU Ecolabel is expected to enter the market by mid-2014. Meanwhile, FEPE was involved in developing a manual for the new ecolabel. The EU Ecolabel for converted paper products requires them to be recyclable.

According to the new rules, non-paper components of a converted paper product must be easily removable to ensure they do not hinder the recycling process. Wet strength agents may only be used if the recyclability of the finished product can be proven. At the same time, non-soluble adhesives may only be used if their removability can be proven.

In parallel, coating varnishes and lamination including polyethylene and/or polyethylene/polypropylene may only be used for binders, folders, exercise books, notebooks and diaries.

Applicants for the EU Ecolabel will be keen to ensure they can prove the recyclability of their product as the ecolabel will increase the quantity and quality of recyclable envelopes, stationery products and paper carrier bags.

Envelopes are often mistakenly regarded as “non-recyclable” by consumers due to their glues and plastic components (windows). However, envelopes are made from a “stronger” paper (long fibres), so contributing strong fibres to the recycling process. Importantly, the EU Ecolabel will better encourage users to put envelopes into a paper recycling bin.

The EU Ecolabel for converted paper products completes the list of existing EU Ecolabels for paper products: newsprint paper, copying and graphic paper, printed paper and tissue paper. ERPC members have actively participated in the development of these labels.

As all Ecolabel criteria for graphic paper products contain requirements on recyclability, there is increased interest in this subject and a huge demand for certificates. This is handled by the laboratories of the research institutes in cooperation with INGEDE.

The Federal Environmental Agency in Germany revised the Blue Angel label for products made from recycled paper. INGEDE and the relevant national associations of the paper value chain actively accompanied this process.

COLLECTION

Three main elements have helped improve collection in Europe: revision of European standard EN 643, securing its correct implementation and the EU projects EcoPaperLoop and IMPACT.

The revised EN 643, the “European list of standard grades of paper and board for recycling” was adopted in November 2013 and published in February 2014. CEPI, ERPA and INGEDE were deeply involved in the revision process and will continue to actively participate in the European-level CEN (European Committee for Standardization) working group to develop sampling and testing standards. In parallel, INGEDE and the relevant national associations will do so at German level.

CEPI prepared a guidance document, video and other tools for its national member associations to promote the new standard.

ERPA national member associations have continued to develop educational programmes for their member companies to improve the quality of paper for recycling. The revised EN 643 standards have been widely promoted. Additionally, ERPA members have organised workshops on moisture and contaminants, particularly in view of the criteria to reach end-of-waste in the paper for recycling sector.



**PAPER
FIBRE IS
RECYCLED
3.5 TIMES
IN EUROPE**

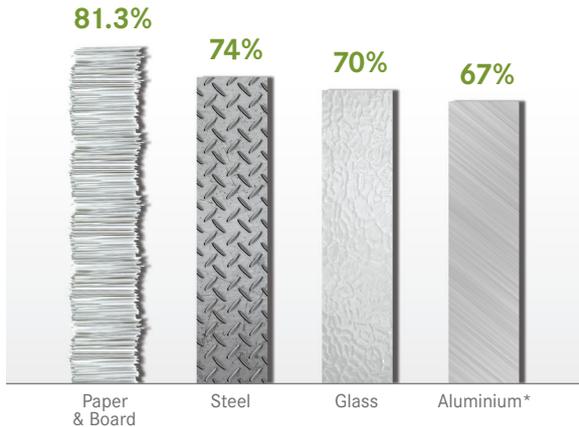
European fibre loops 2013

Source: CEPI 2013

Several research and other organisations relevant to paper recycling are currently carrying out the “EcoPaperLoop” project, steered by CEPI, INGEDE, INTERGRAF and others. One of the work packages deals with improving the collection of paper for recycling. Relevant activities in 2013 included the regional characterisation of model regions, collection systems and recycling mills.

CEPI joined the European Innovation Partnership for Raw Materials with the aim of developing reproducible pilots of good quality collection schemes in those EU countries where less than 60% of paper is collected for recycling.

PAPER AND BOARD IS THE MOST RECYCLED PACKAGING IN EUROPE



2012 packaging recycling rates in the EU

* 2011 data (2012 data not available)

Source: European steel, glass and aluminum packaging associations, CEPI 2013

RESEARCH AND DEVELOPMENT

The main developments include: a new process to re-pulp wet-strength paper with reduced AOX emissions in tissue production; work to improve the previously adopted ERPC scorecards on deinkability and removability of adhesive applications; and eight low-carbon concepts for clean processing of raw materials for paper.

An ETS member company has won a prestigious sustainability award for an innovative project significantly reducing chemical discharges. Their mill, situated in Villey Saint Etienne in north eastern France, received first prize in the Eco-Management category of the 'Enviro Trophy', a competition organised by the French regulatory authorities.

The mill manufactures tissue products from virgin fibre, recycled fibre and 'broke', a raw material created from waste and offcuts. Judges recognised the facility for its implementation of Project Genesis, an initiative abating discharges of absorbable organic halogens (AOX) resulting from the re-pulping of broke.

Tissue broke contains wet-strength resin, a material that must be broken down during pulping before pulp can be re-used. The mill previously used sodium hypochlorite for this task but discovered it created effluent AOX, hazardous chemicals closely monitored by the authorities.

The mill established Project Genesis to address this issue and subsequently installed a new broke pulper equipped with an additional refiner. This allows the mill to break down wet-strength resin mechanically, consequently cutting the required amount of sodium hypochlorite to one fifth of the previous level. In turn, this has enabled the mill to reduce AOX discharges to one third of the previous level.

Meanwhile, the mill's parent company has been named in the first 'Natural Capital Leaders Index' of global companies successfully reporting growing revenues in recent years while simultaneously reducing their environmental impacts.

INGEDE Method 1 will be revised to further improve deinkability tests according to INGEDE Method 11. In line with this, INGEDE launched a project on filter paper in March 2013.

Erma Concepts, the company running the INGEDE office, carried out a project to measure microstickies to improve the ERPC Scorecard for the Removability of Adhesive Applications.

Companies within CEPI and ERPA membership have invested in advanced technology to improve automated sorting, in cooperation with technology suppliers and equipment manufacturers.

CEPI managed an innovative project to find breakthrough technologies for the pulp and paper industry to enable decarbonisation of the sector by 2050. Eight concepts, some at the level of being patentable, were developed and presented to a jury including the EU Commissioner for Climate Action, Connie Hedegaard.

Although the project primarily aims to reduce greenhouse gas emissions, it is likely to revolutionise the whole sector, including how raw materials are sourced and processed. Many of the eight concepts also promise to reprocess clean, good quality fibres for recycling.

CEPI has published the Two Team Project report and organised partnering events to roll out the implementation of these eight new concepts.

EDUCATION AND INFORMATION

Brochures, posters and articles in specialised magazines have been published and circulated widely in ERPA countries, both to encourage segregation at source and separate collection as well as avoid co-mingled collection.

INGEDE ran a range of presentations and events across Europe as well as two in the United States, partly linked to EcoPaperLoop.

Major activities included a public seminar in Warsaw for the paper value chain in Poland with speakers from CEPI and INGEDE, covering collection of graphic paper and packaging paper, life cycle assessment and related policy.

-18.4% CO₂ PER TONNE OF PAPER



Reduction of specific emissions of CO₂ per tonne of paper production in Europe 2005 - 2013

Source: CEPI 2013

FINAT intensified its outreach activities, presenting the business case for the recycling of secondary materials from the self-adhesive label industry at events throughout Europe, as well as welcoming new recycling programmes to its recycling portal. The association started preparations for a release liner recycling competition, to be launched in 2014.

RadTech Europe organised discussions with other stakeholders (including ECMA, INTERGRAF and EuPIA) in the packaging and graphic arts arena to identify the main challenges faced by users of radiation curing technology and how to handle these. As a first step, research performed by RadTech Europe and INGEDE on deinkability of UV inks was provided to the other associations.

Additionally, CEPI gave presentations at leading research conferences on paper recycling and workshops organised by the EU institutions and its stakeholders.

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European Paper Recycling Awards 2013

A significant amount of practical but often not very visible 'behind the scenes' work is carried out in companies, in research and by civil society groups to improve paper recycling. Every two years the ERPC calls for candidates to be recognised in their efforts to enhance paper recycling in Europe, inspiring others to adopt good practices.

October 2013 saw the fourth edition of the European paper recycling awards.

Two winners received their awards during a ceremony held at the European Parliament in Brussels. Mr. Gerben-Jan Gerbrandy, MEP (pictured here), underlined the need for further action to maintain European paper recycling's leading role: "With the increasing world population, resource efficiency is no luxury. It is a necessity to stay competitive. For now the EU is still the world leader in paper recycling but if we want to stay in that position we need to set paper collection targets when the EU waste legislation is reviewed next year."

The Technology Improvement and R&D category was won by Voith Paper GmbH & Co. KG with a new technology called LowEnergyFlotation (LEF).

LEF is an innovative technique significantly reducing energy requirements to remove printing ink from paper fibres. Combined with modified pumps, LEF enables energy consumption to be reduced by up to 50% in flotation.



LEF technology has already been applied to more than 10 systems worldwide.

The Information and Education category was won by the Alcorcón Municipality in Spain. Their project improves paper and board collection by distributing paper bins in all schools in their district. It aims to increase both the amount of paper collected as well as environmental awareness, reaching over 15,000 children.

ERPC Chairperson Beatrice Klose stressed the recycling awards' vital role: "The European paper recycling awards recognise innovative approaches to paper recycling, which is a daily act, familiar to all. It is our pleasure to highlight a few of those that merit wider recognition and visibility."

The paper art awards were made by the German artist Ms. Helene Tschacher. See more at www.paperforrecycling.eu

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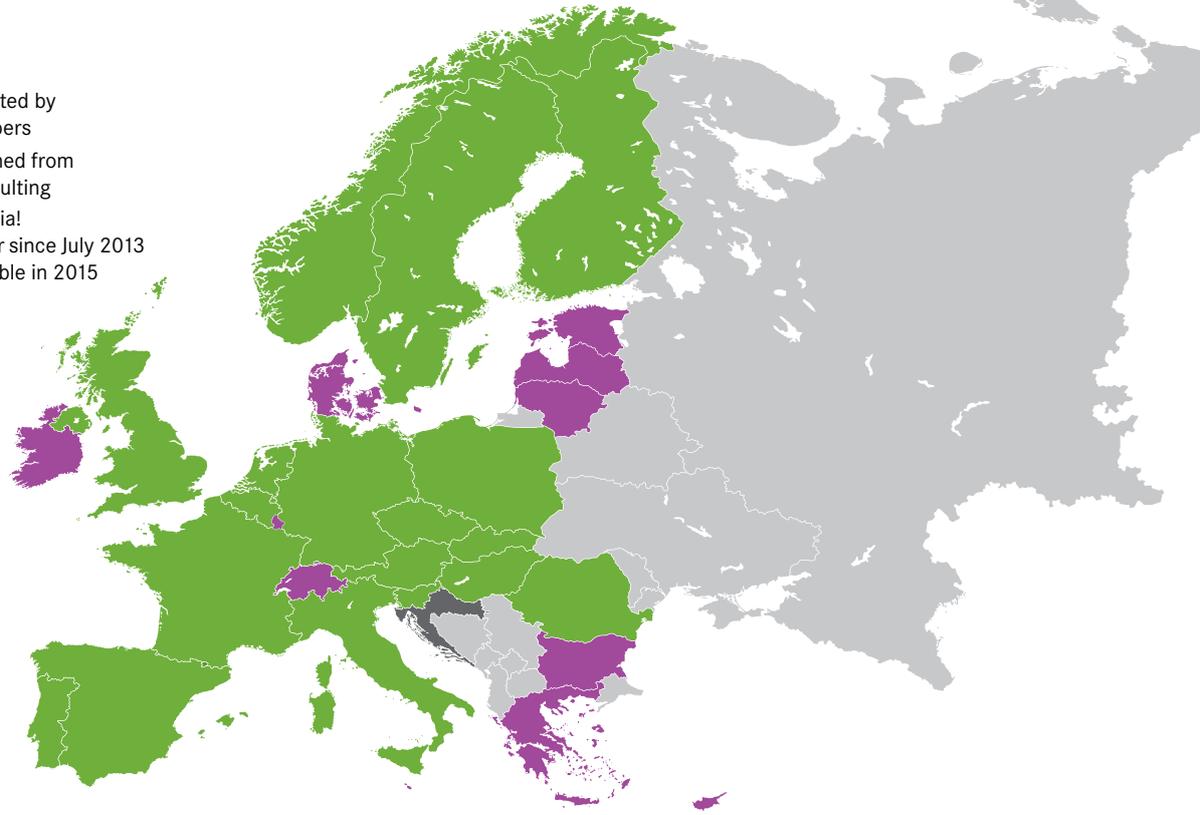
Paper recycling – Who does what?



6

Data Quality: 2013 data

- Data collected by CEPI members
- Data obtained from Pöyry Consulting
- New: Croatia! EU member since July 2013 Data available in 2015



The data used to calculate the recycling rate is collected by CEPI (Confederation of European Paper Industries). It comes from the questionnaire sent by CEPI to its national member associations in 18 countries (Austria, Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, and the United Kingdom). National associations supply the data, collected from their member mills and companies as well as official sources where appropriate.

The data in this report includes paper for recycling utilisation and trade plus paper and board production, trade and consumption for non-CEPI members of the EU-28 (Bulgaria, Croatia, Cyprus, Denmark, Estonia, Greece, Ireland, Latvia, Lithuania, Luxembourg and Malta) and Switzerland. This data is obtained from Pöyry Consulting.

After submission to CEPI, the data may be adjusted by the source, in particular the trade data obtained from customs authorities. CEPI takes the adjustments into account, with the figures being considered as final and published in the subsequent report (e.g. 2012 figures in this report).

Following this rigorous process, the 2012 recycling rate has been confirmed at 71.4% as opposed to the initially higher figure of 71.7%.

For certain countries¹, the calculation of the mass of recycled paper and board based on paper for recycling utilisation and net trade has not produced a result considered to adequately reflect reality. Consequently, recycling in these cases has been based on actual paper and board collection for the specific purpose of recycling.

This alternative methodology is mainly needed in the case of the relatively high trade volumes in the Netherlands, complicating the exercise of distinguishing domestic utilisation from trade of paper for recycling. It is important to note that this change has a reductive impact on the overall recycling rate as the usual calculation method would overestimate actual recycling in the Netherlands. Other countries² have adjusted paper and board consumption figures with the opposite impact.

All historical annual recycling rates have been recomputed based on the revised calculation methodology.

CEPI has commissioned an external verification of the recycling rate calculation since 2000 (see Assurance Reports 2006 - 2010 by PricewaterhouseCoopers and 2000 - 2005 by Pöyry in the respective Annual Reports).

For the ongoing five-year period (2011-2015), CEPI has decided to work with Ernst & Young to further improve data quality. As an annual exercise, data quality will be assessed using a method recently adopted by the European Commission for organisation and product environmental footprints. Specifically, this will cover geographical representativeness, time-related representativeness, completeness and the uncertainty parameter. CEPI will publish the assessment results on its website.

At the end of the commitment period, Ernst & Young will verify the achievement of the 2015 target using an international standard for commitments.

¹ Finland, France, Hungary, the Netherlands, Sweden.

² Belgium, Finland, the Netherlands, Sweden, United Kingdom.

The European Recovered Paper Council (ERPC)

The ERPC was set up as an industry self-initiative in November 2000 to monitor progress towards meeting the paper recycling targets set out in the 2000 European Declaration on Paper Recycling. Since then the commitments in the Declaration are renewed every five years.

In 2011, the ERPC committed itself to meeting and maintaining both a voluntary recycling rate target of 70% in the EU-27 plus Switzerland and Norway by 2015 as well as qualitative targets in areas such as waste prevention, ecodesign, and research and development.

Signatories



www.cepi.org



www.citpa-europe.org



www.emfa.eu



www.erpa.info



www.europeantissue.com



www.fepe.org



www.ingede.org



www.intergraf.org



www.beveragecarton.eu

Supporters



A sector of CEPE aisbl

www.eupia.org



www.finat.com



www.radtech-europe.com

The ERPC is pleased to welcome a new sector representing moulded paper products – best known for egg cartons. EMFA is no stranger to promoting recycling and we firmly believe this new collaboration will offer both important lessons and further support to all ERPC members.

This is a durable and recyclable paper product. When you no longer need it, please recycle it. Printed with vegetable-based inks not containing mineral oils.



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