

PAPER RECYCLING

MONITORING REPORT 2015
Final Report of the 2011-2015 period



European Declaration on Paper Recycling
2011 - 2015

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Paper Recycling Chain meets its voluntary commitment!

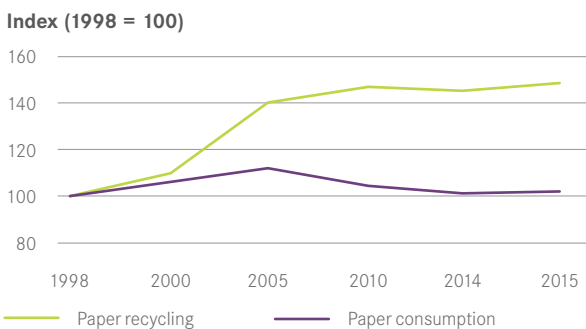
Since 2000, the European paper value chain has demonstrated its commitment to the two-fold aim of increasing recycling rates and joining efforts to remove obstacles hampering paper recycling in Europe. Consistent with this, in 2011, the signatories of the European Declaration on Paper Recycling declared their commitment to reach 70% paper recycling by 2015.

And we not only achieved but exceeded this target. In 2015, 71.5% of all paper consumed in Europe was recycled, corresponding to 1.2 million tonnes more than the 70% target.

Paper consumption has slightly increased compared to 2014, reaching 82.5 million tonnes. Compared to the base year of the Declaration (2010), collection and recycling of paper has increased by 1.4%, corresponding to 0.8 million tonnes of paper.

Considering the Declaration period as a whole, we have seen a considerable increase in the recycling rate in the first half of the period, but the rate has stabilised since then.

PAPER RECYCLING VS PAPER CONSUMPTION



We are quite clearly starting to reach maximum potential, since 22% of paper consumption cannot be collected or recycled e.g. wallpaper, hygiene paper.

This situation is linked to changing consumption patterns affecting the most recycled paper products. Newspaper consumption has continued to decline in 2015. Equally, increased consumption of corrugated boxes, the other most recycled paper product, is only partly compensating the effect on the overall recycling rate of declining graphic (printing and writing) paper consumption.

Despite the now limited potential for further improvements in the recycling rate, we are still aiming higher. In fact, as this report is being printed, a new, even more ambitious commitment for 2016-2020 is being prepared. This will keep the industry moving on its path towards ever-higher recycling rates.

In 2015, we can also notice positive achievements at the regional level, despite differences between regions continuing to exist. The number of countries with a recycling rate below 60% has dropped to 10, 2 less than 2010, but one more than 2014. Over the last year, the number of countries exceeding recycling rates of 70% was 15, just like the year before.

On an international level, Europe continues to be the world leader in paper recycling followed by North America. Other world regions' paper recycling rates are improving, but starting from lower levels. In Europe, paper fibres are reused 3.5 times on average, while the world average is only 2.4.

While the EU is discussing ways to move into a circular economy, the paper fibre loop can serve as a model for circularity. Paper recycling is an industry "Made in Europe". It prolongs value creation and job opportunities in Europe from a renewable, predominantly European resource, wood.

"Don't worry, it's simple!" our mascot has been telling people in tens of thousands of offices across Europe over the last three years. We indeed want to keep it simple for citizens and consumers in Europe to recycle paper, both in their homes and workplaces.

Making recycling easier and simpler year after year requires a huge effort by the paper value chain. This report explains these efforts, as well as showing our pride in the progress we've made.



For the commitment period of 2011 to 2015, EY has independently verified the recycling rate calculations.

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Recycling Rate 2015: 71.5%

The recycling rate in Europe reached **71.5%** in 2015.

In a year to year comparison, the total amount of paper collected and recycled in the paper sector has increased by 1.5% to 59 million tonnes, while consumption of paper has increased by 1.5% or 1.2 million tonnes.

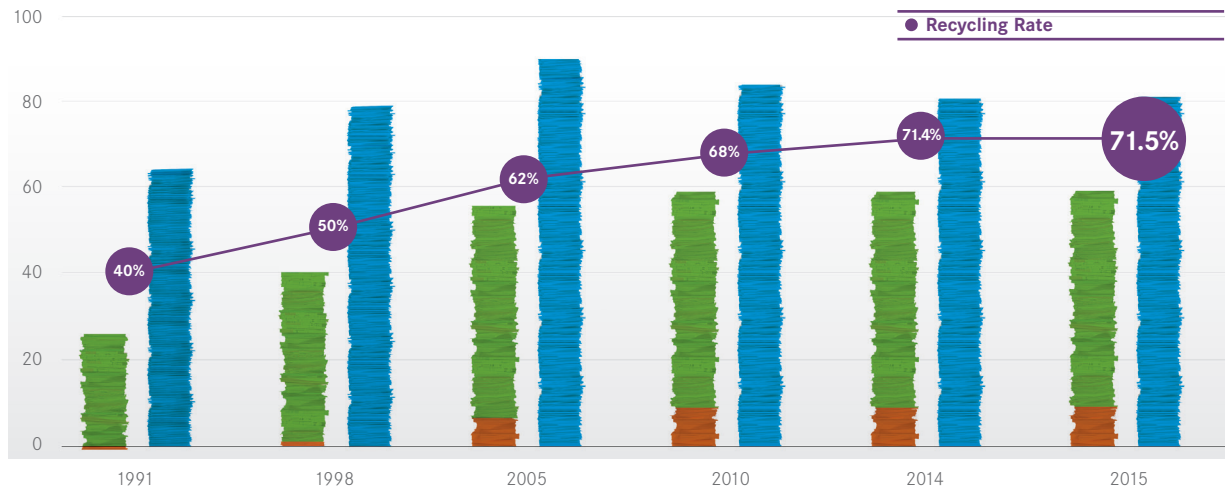
In a longer term perspective, recycling has increased by 47% (19 million tonnes) since 1998, the base year for the first voluntary commitment set in the European Declaration on Paper Recycling.

In the same period, consumption has shown a markedly different and variable pattern: increasing from 1998 until 2007, dropping back to its initial level in the subsequent years, and only then slightly recovering since 2013.

Third countries, mainly China, bought a net volume of 9.4 million tonnes (16%) of the total 59 million tonnes for recycling outside the commitment region of EU-28 plus Norway and Switzerland.

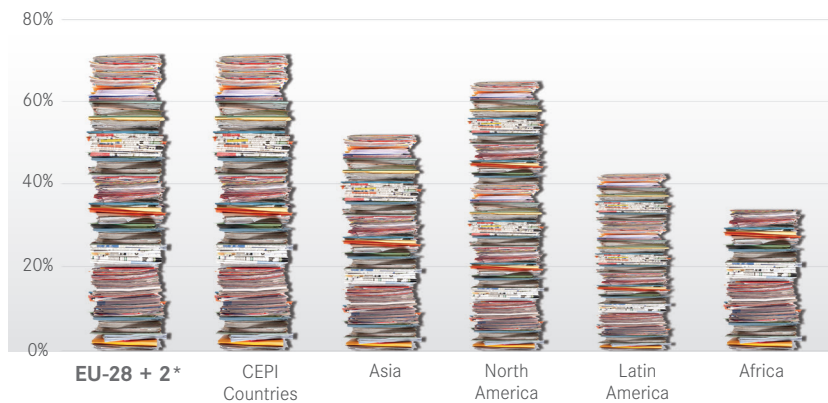
EUROPEAN PAPER RECYCLING 1991-2015

Million Tonnes



Source: CEPI 2016

EUROPE IS THE PAPER RECYCLING CHAMPION!



Recycling rate in world regions in 2014

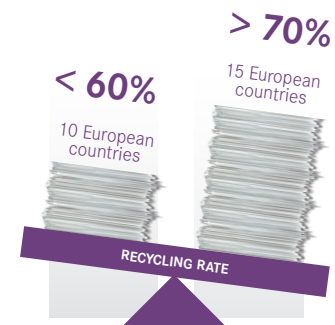
* EU-28 + 2 : EU-28 + Norway and Switzerland

Source: CEPI, RISI - 2015 figures will be available in November 2016

NATIONAL RECYCLING RATES IN EUROPE

15 European countries exceeded the 70% recycling rate (15 in 2014). 10 European countries were below 60% (9 in 2014).

Source: CEPI 2016





Progress in Qualitative Targets

The ERPC¹ members representing 13 sectors along the paper value chain committed to improving the recycling rate by 2015. By joining the European Declaration on Paper Recycling they have demonstrated their commitment to qualitative targets. ERPC members are involved in initiatives to facilitate the recycling process and increase recycling activity. These notably include collection and applying ecodesign to paper products.

COLLECTION

Three main elements help improve collection in Europe: securing the correct implementation of the revised standard EN 643, national initiatives on paper collection and the EU project IMPACTPaperRec (see page 6).

CEPI², ERPA³ and INGEDE⁴ have promoted the implementation of the revised standard EN 643 among their membership. They are also actively working in CEN⁵ towards a standard method for taking samples from paper for recycling. This will allow a more harmonised method of measuring and dealing with moisture and unwanted material in paper for recycling.

National initiatives on paper collection have continued, such as “Tu Papel es Importante” (“your paper/your role is important”) by Spanish CEPI member association ASPAPEL.

This initiative represents a key contribution by the Spanish paper industry to the circular economy through increasing paper collection at municipal level i.e. from households, small shops, markets, metro, hotels, offices and schools.

It aims to provide municipalities with the latest developments, technical information and advice to improve paper collection. Having now reached its 10th anniversary, this initiative currently targets the 150 largest Spanish municipalities.

ECODESIGN

Important developments include revision of the ERPC Deinking Scorecard, monitoring of the EU Ecolabels for printed products, carrier bags and stationery products as well as the new German ecolabel “Blue Angel” for printed products.

FEPE⁶ was one of the main driving forces in the creation of an EU Ecolabel for paper carrier bags and stationery products, including paper envelopes.

This label has been available for certification since late 2014. FEPE is actively encouraging envelope manufacturers to get certified, and has helped initiate a media campaign to promote the EU Ecolabel in the paper converting industry. This campaign is scheduled to start running in the second half of 2016.

INGEDE worked with EuPIA⁷ and INTERGRAF⁸ as well as IVK⁹ on the determination of good recyclable material combinations. This collaboration aims to add annexes to the scorecards which exempt these products from recyclability testing.

Currently, these annexes are close to finalisation. The joint efforts of the involved industries prove that the print value chain is actively working to improve the sustainability profile of printed products.

INGEDE became involved in work on international standardisation to create an ISO standard which can be seen as international extension of the ERPC Deinking Scorecard.

INTERGRAF is monitoring the uptake of the EU Ecolabel on printed paper by European printing companies. The EU Ecolabel on printed paper was introduced in 2012, with printed products carrying the EU Ecolabel having to meet strict environmental criteria including recyclability and deinkability. The latter has to be proven according to the ERPC deinkability scorecard.



PAPER FIBRE IS REUSED 3.5 TIMES ON AVERAGE IN EUROPE

European fibre loops 2015

Source: CEPI 2016

¹ European Recovered Paper Council

² Confederation of European Paper Industries

³ European Recovered Paper Association

⁴ International Association of the Deinking Industry

⁵ European Committee for Standardization

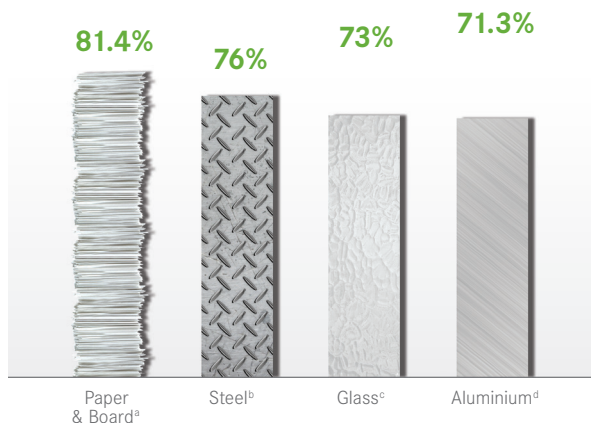
⁶ European Federation of Envelope Manufacturers

⁷ European Printing Ink Association

⁸ European Federation for Print and Digital Communication

⁹ Industrieverband Klebstoffe e.V., German member of FEICA, the Association of the European Adhesive & Sealant Industry

PAPER AND BOARD IS THE MOST RECYCLED PACKAGING MATERIAL IN EUROPE



2014 Paper Packaging Recycling Rates

^a source: CEPI

^b source: APEAL

^c source: FEVE

^d aluminium beverage cans, data from 2013, source: metal packaging Europe

RESEARCH AND DEVELOPMENT

The main R&D developments include identifying difficult to deink print products before they enter the recycling process as well as working on the REFFIBRE project¹⁰.

CEPI was involved in the REFFIBRE project. This EU-funded project developed tools and knowledge necessary for eco-design resource-efficient paper and board production processes. The focus was on paper for recycling as the main raw material in paper and board production. In the multiple-output mill concept novel, bio-based products are produced from side streams taken out of the main production line. New processes were proposed and demonstrated in cooperation with the REFFIBRE industrial partners, including trials for validating the newly developed tools.

European fibre flow analysis and value chain environmental indicators were produced to support the implementation of circular material flows and cascading business models in a complex environment where fibres migrate from one product loop to another, e.g. printing and writing paper applications used to produce case materials, or increasing recycling rates leading to an increasing amount of fines and ash content.

Results will be available by November 2016.

FINAT organised a meeting with the CEOs of leading labelstock supplying companies to discuss the challenges and opportunities for release liner recycling at LabelExpo 2015. As a result, FINAT requested a fact-finding study that was commissioned at the beginning of 2016.

INGEDE finished a common project with DPDA¹¹ looking into inkjet ink components and their influence on deinkability. It financed and steered a research project launched in 2014 on the identification of printing and varnishing technologies by a relatively simple Fourier Transform Infrared Spectroscopy measurement device. This research aimed to help enable mills identify objects potentially critical for deinking during entry inspection.

INGEDE became involved in a multi-client research project on the behaviour of redispersible adhesive applications in recycling and monitored and steered publicly-funded research projects in Germany, focusing on recycling and deinking processes.

EDUCATION AND INFORMATION

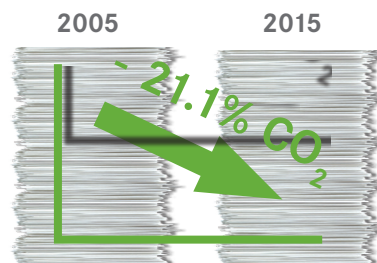
Education for recycling at schools is an important part of the Aspapel "Tu Papel es importante" project. Aspapel have placed more than 200.000 specially designed board ecobins in the classrooms of thousands of schools as a way to educate children in good recycling habits.

In 2016, many municipalities have included the supply and collection of these ecobins in their waste management tenders, ensuring that every classrooms will have its paper recycling ecobin.

EMFA¹² worked with a marketing agency to collect evidence showing the advantages of moulded fibre compared to competing materials. This highlighted two key positives: the use of paper for recycling in production of moulded fibre products and the products' high level of recyclability.

FINAT highlighted release liner recycling at various events, including the AWA global release liner conference and LabelExpo. It also organized the 2nd edition of the FINAT recycling awards to acknowledge the efforts of converters and end-users in this important area.

-21% CO₂
PER TONNE OF PAPER



1 TONNE OF PAPER

Reduction of specific emissions of CO₂ per tonne of paper production in Europe 2005-2015

Source: CEPI 2016

¹⁰ <http://www.reffibre.eu>

¹¹ Digital Print Deinking Alliance

¹² European Moulded Fibre Association



EU Project IMPACTPapeRec for separate collection

IMPACTPapeRec¹ is an EU-funded Horizon 2020 programme with a two-fold aim: further increase the separate collection of paper for recycling and promote appropriate schemes to avoid landfilling and incineration.

19 partners from municipalities, companies in the waste management, paper and retail industries, extended producer responsibility schemes, research institutes as well as NGOs have formed a consortium to cooperate on this issue.

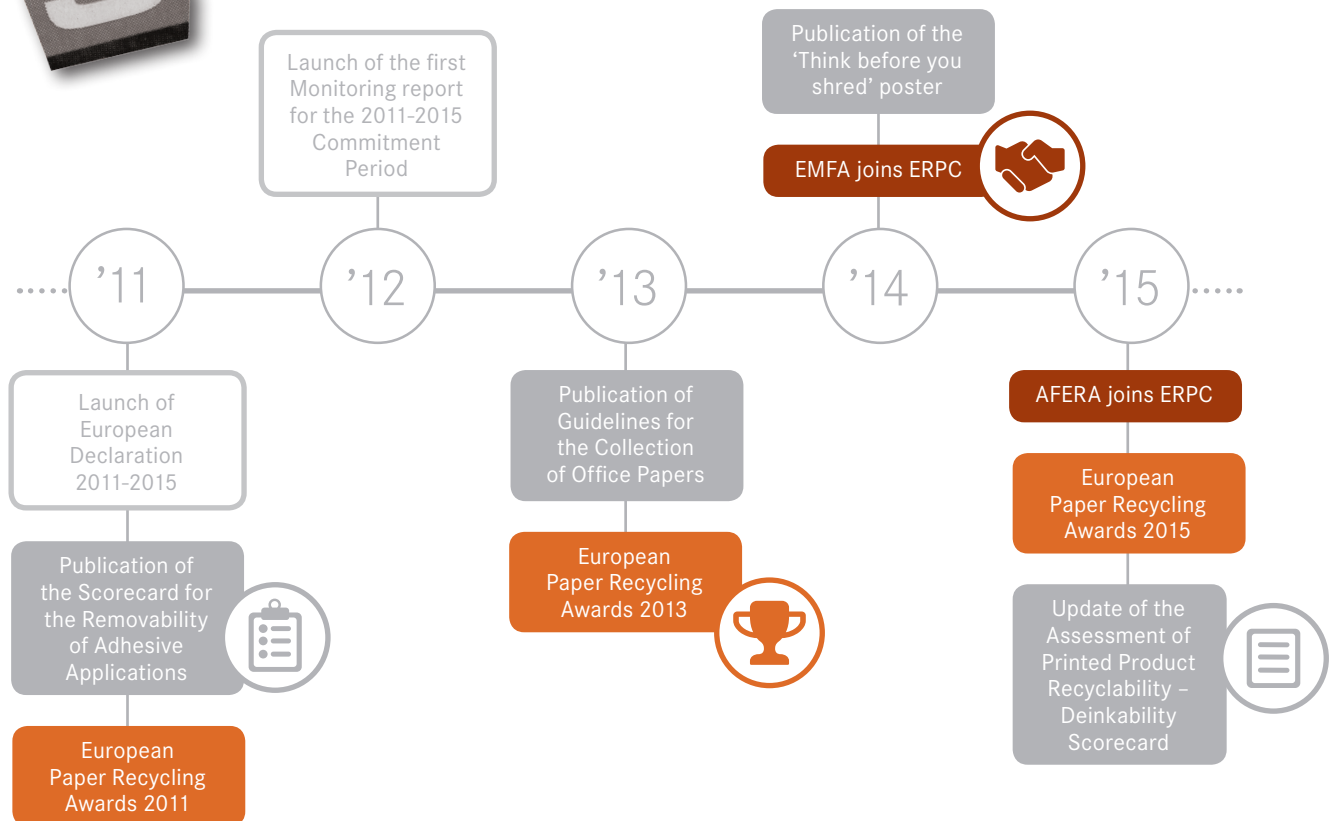
CEPI and INGEDE have been involved in the consortium building. The focus is on two types of countries: those with paper recycling rates below 60% such as Poland, Romania and Bulgaria, as well as countries where used paper from households is mainly collected through comingled systems rather than separate at source such as France and the United Kingdom.

The project was approved in July 2015 and launched in February 2016. It has evolved from a commitment on separate paper collection in the European Innovation Partnership on Raw Materials “IMPACT – Introduction and Improvement of Separate Paper Collection to avoid landfilling and incineration”. The project is scheduled to run until January 2018.



Funded by the EU Horizon 2020 research and innovation programme under grant agreement No 690182

Retrospective on the 2011-2015 commitment period



¹ <http://impactpaperec.eu/>

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Data Quality: 2015 data

The data used to calculate the recycling rate is collected by CEPI, sourced from the questionnaire it sends 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 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 any adjustments into account, with the figures being considered as final and published in the subsequent report e.g. 2014 figures in this report.

Following this rigorous process, the 2014 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 data 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.

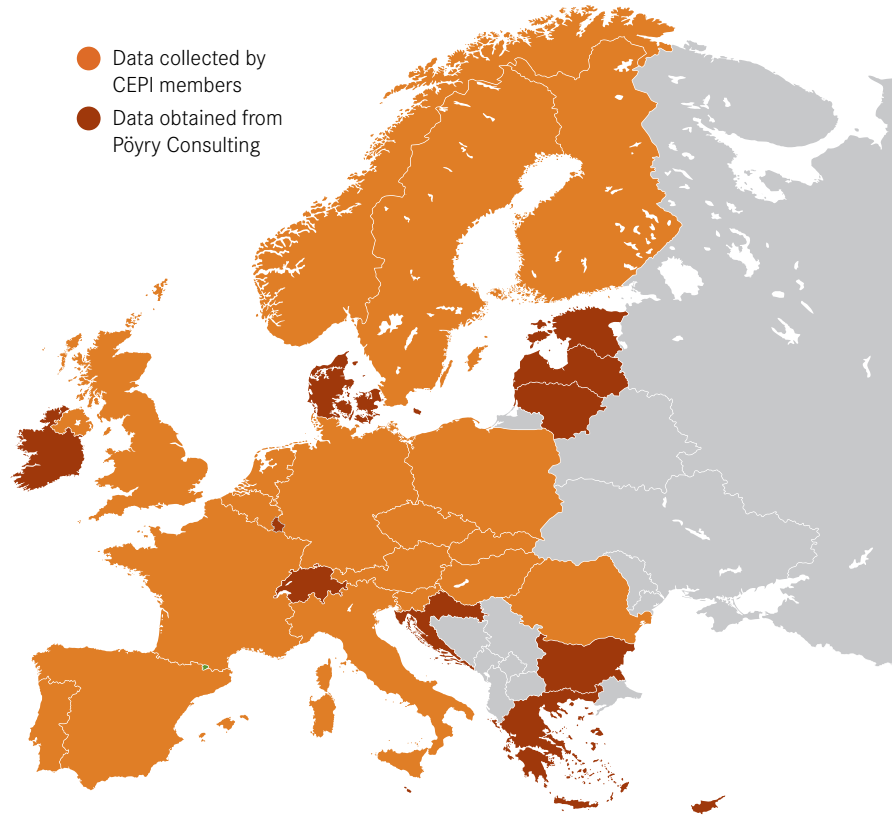
It is important to note that this change has a reductive impact on the overall recycling rate as the usual calculation method would overestimate actual recycling in the Netherlands. Other countries² have adjusted paper and board consumption figures with the opposite impact.

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

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

For the 2011-2015 five-year period, CEPI worked with EY to further improve data quality. Data quality was assessed

- Data collected by CEPI members
- Data obtained from Pöyry Consulting



annually using the methodology recently adopted by the European Commission to calculate environmental footprints for organisations and products. Specifically, this covered geographical representativeness, time-related representativeness, completeness and the uncertainty parameter. CEPI has published the assessment results on its public website³.

For the commitment period 2011 to 2015, EY has independently verified the recycling rate calculations and 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

³ Download the assessment at: <http://ow.ly/MqOU304S9Fa>

The European Recovered Paper Council (ERPC)

The European Recovered Paper Council (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. 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



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