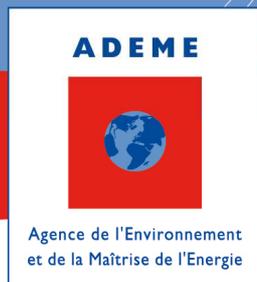


GENERAL PRINCIPLES FOR AN ENVIRONMENTAL COMMUNICATION ON MASS MARKET PRODUCTS

METHODOLOGY FOR THE ENVIRONMENTAL IMPACTS ASSESSMENT OF PRINT PRODUCTS

BP X30-323-16 published in May 2013

Coordination : Edouard Fourdrin / Alice Herbelin – Direction Consommation Durable et Déchets - Service Eco-conception et Consommation Durable (SECCD) – ADEME (Angers)



READING GUIDE



Any representation or reproduction of the contents herein, in whole or in part, without the consent of the author(s) or their assignees or successors, is illicit under the French Intellectual Property Code (article L 122-4) and constitutes an infringement of copyright subject to penal sanctions. Authorised copying (article 122-5) is restricted to copies or reproductions for private use by the copier alone, excluding collective or group use, and to short citations and analyses integrated into works of a critical, pedagogical or informational nature, subject to compliance with the stipulations of articles L 122-10 – L 122-12 incl. of the Intellectual Property Code as regards reproduction by reprographic means.



CONTENTS

INTRODUCTION	4
• Background.....	4
• Environmental labelling principles.....	4
• Objective of the reading guide	4
PRESENTATION OF THE PRODUCT COVERED BY THE REPOSITORY.....	5
• Introduction	5
• Functional unit	5
• Print products life cycle and study scope.....	5
EXPLANATION OF METHODOLOGICAL CHOICES	7
• Environmental issues and impacts	7
• Data underlying impacts and articulation of specific and generic data.....	8
• Other methodological choices.....	10
UNIT GLOSSARY	11



INTRODUCTION

► Background

► General background on environmental labelling

Article 54 of law No. 2009-967 passed on 3 August 2009 states that consumers shall be given objective environmental information on product characteristics (environmental impacts of the product/package pair).

Environmental labelling applies to all consumer products targeted at the end-consumer. Since spring 2008, AFNOR has been conducting work headed by ADEME to develop the methodologies assessing environmental impacts with the involvement of all stakeholders: professionals, but also based on input from civil society. **The AFNOR repository of best practices BP X30-323 is the framework document that sets out the general principles** so that companies who wish to initiate environmental labelling can do so on the basis of a common methodology. The repository has established that the indicators should allow products belonging to the same category to be compared. It is therefore necessary for the indicators to be calculated in the same manner. For this reason, and as an extension of this repository, work groups have met to specify calculation methods.

Sector-specific work groups bring together professionals and other stakeholders concerned by a product family to discuss and propose calculation methodologies specific to a given product.

► Specific background of the reading guide: work on print products

This repository aims to provide a methodological framework for assessing the environmental impacts of the print product category. The scope of this repository includes to all printed paper products containing at least 90% by weight of paper, paperboard or paper-based substrates.

It covers:

- books, press media (magazines and newspapers)

- inserts integrated into other print products that shall be treated independently of the primary print product
- printed paper products occasionally carrying an add-in

This guidance document does not apply to stationery products (envelopes, notebooks, folders...), printed tissue papers and printed paper products used for packaging and wrapping.

► Environmental labelling principles

In order to provide consumers with information that is representative of the main environmental impacts of products, the environmental labelling system is based on a key method for all work in the area: **life-cycle analysis** (LCA). This assessment makes it possible to identify and evaluate all the potential environmental impacts of a product at each stage of its life cycle: raw materials production or extraction, product manufacture, distribution, product use and the impacts associated with its end-of-life processing or disposal.

ISO 14040 and ISO 14044 ¹ provide an international framework for this type of assessment. The standards have, however, left various methodological options open. The purpose of the cross-sector methodology annex and the sector-specific methodology annexes is to further specify these methodologies in order to ensure that **all calculations follow the same method and that the results included in the environmental labelling system are therefore comparable.**

► Objective of the reading guide

The aim of this reading guide is to explain some of the concepts and requirements included in the repository print products and make them accessible to a wider audience so that everyone can understand the choices made in the repository. There is also a reading guide for the cross-sector methodology annex that is applicable to all products.

¹ www.iso.org



PRESENTATION OF THE PRODUCT COVERED BY THE REPOSITORY

► Introduction

The working group “print products” jointly led by the UNIC (graphics and printer industrials) and ADEME, met on a regular basis from April 2010.

Press media representatives, editors, paper producers, consultants and other organizations of the value chain were mobilized in the work group. This work contributed to complete the collective project "Scoredit". It was subsequently patterned on the national experimentation framing this project.

► Functional unit

► Determining the functional unit and the reference flow

▪ Functional unit

The functional unit is the unit of measurement used to evaluate the service provided by the product, which is therefore a result. For print products, the functional unit selected is the following: **"Provide a publication to the consumer"**. It can be through various modes: kiosks, book seller, postboxes, etc.

This functional unit will ultimately make it possible to include into the comparison all publications made available to the consumer on digital media.

Note that the print product lifetime or the number of readers for a same printer paper are disregarded as a factor in the calculation for this first version.

▪ Reference flow

The reference flow designates the quantity of product necessary to satisfy the needs defined by the functional unit. For this study, the reference flow corresponds to **a provided publication with its packaging**.

Paper waste, scrap and unused products

Environmental impacts of print products take into account:

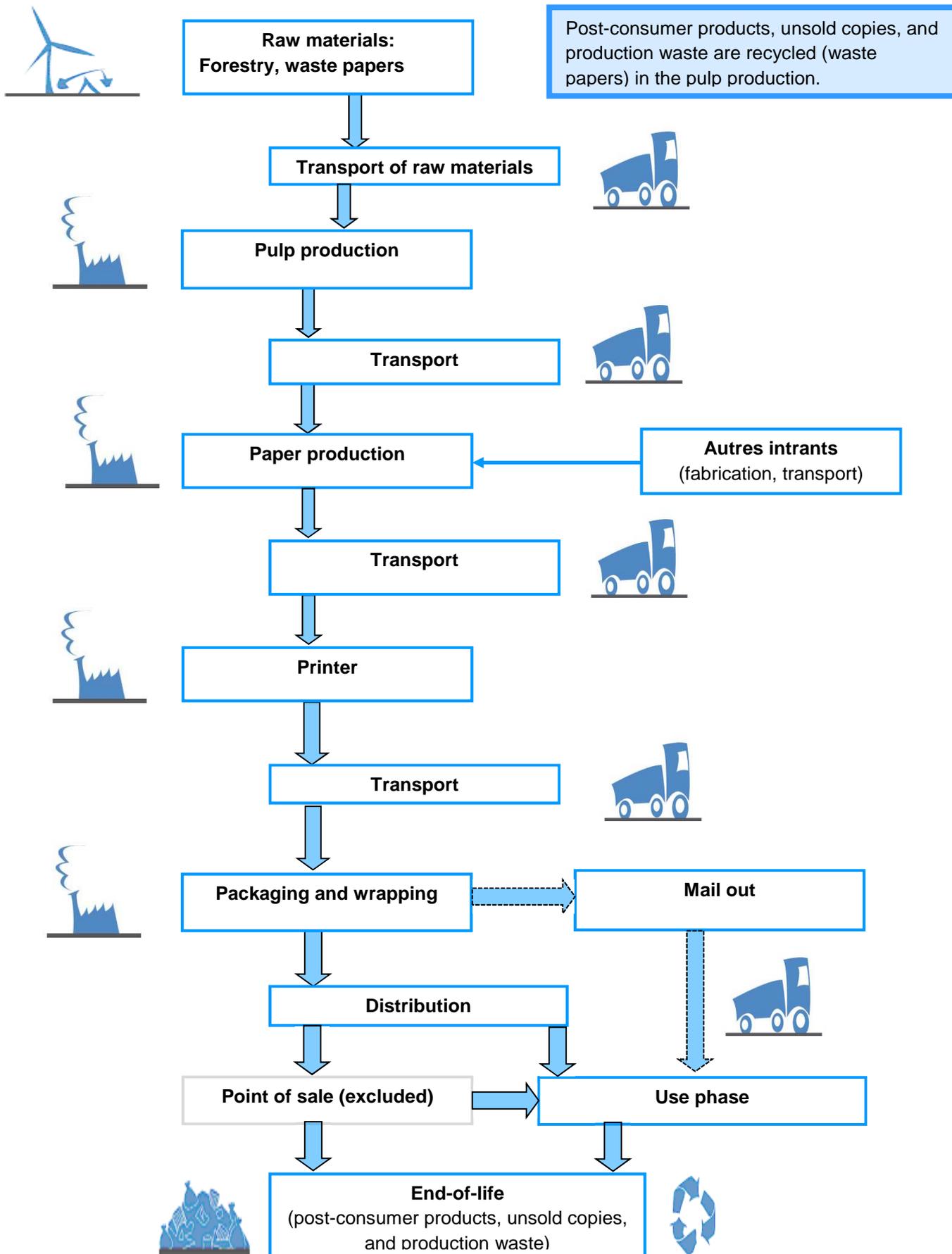
- Waste from production and paper waste
- Flows related to finished products going unsold or undistributed

► Print products life cycle and study scope

All the stages of the life cycle are taken into account, excepted:

- **the content dimension**: the editorial phase and all other artistic and intellectual services
- stages with **a negligible influence** on the **environmental balance**:
 - o The activity of intermediate storage platforms and points-of-sale;
 - o Waste transport
- Stages **excluded by the** methodological repository **BP X30-323**: consumer transport to the point of sale is not directly included in the assessment.

Print product life cycle





EXPLANATION OF METHODOLOGICAL CHOICES

▸ Environmental issues and impacts

▸ Environmental impact assessment:

Some criteria have been identified as significant for the overall environmental balance of print products:

▪ Climate change

Pulp and paper production, printing and transport activities result in greenhouse gas emissions that drive climate change. **The Grenelle 2 laws and the requirements of BP X30-323 have made it mandatory to consider this issue.**

▪ Photochemical pollution

Atmospheric emissions (nitrogen oxides, volatile organic compounds) from paper production, printing and transport activities in particular, are likely to react in the presence of sunlight. This reaction leads to a formation of ozone in the lower atmosphere, which is known for affecting the health (respiratory route). **This indicator represents an important issue spanning the entire print publishing industry and there is differentiability for a majority of market products.**

▪ Fresh water eutrophication

Fresh water eutrophication is the modification and deterioration of an aquatic environment by inputs of phosphate nutrients. It can generate an excessive and rapid development of micro-algae and could lead to a lack of oxygen in the deep waters. **Pulp and paper production activities contribute significantly to these nutrient inputs. This indicator is discriminating and the data are reliable and accessible. Therefore this indicator was retained for the environmental labeling.**

▪ Water use

Pulp and paper productions require water consumption to transport the fibre for the formation of the sheet of paper. **This indicator is “a priori” discriminating but it was not**

adopted due to a difficult access to the data and an absence of standardized calculation method. This indicator is complementary.

▪ Depletion of non-renewable natural resources

Industrial activities (pulp and paper productions, printing...) and transport stages are important users of non-renewable natural resources (natural gas, fuel, diesel...). **This indicator allows distinguishing products in the market but it was not adopted because it is redundant with the climate change indicator. However, it is complementary and it could ultimately be used to integrate the comparison against electronic appliances.**

The choice of environmental indicators for the environmental labeling was made on several criteria:

- indicator relevance: importance of the impact and differentiation for a majority of market products (comparability)
- indicator ease of implementation: feasibility for the database and accessibility of the data for the firm
- indicator consistency: coverage of the whole life cycle scope and product packaging scope, consistency with other posted indicators
- indicator robustness and reliability: methodological recognition and robustness, reliable data.

Indicators retained:

- **Climate change**, expressed in kg CO₂ equivalent
- **Photochemical pollution**, expressed in non-methane volatile organic compounds (NMVOC) equivalent
- **Eutrophication (fresh water)**, expressed in g phosphate equivalent

(see the Unit glossary)

The biodiversity issue was identified as a relevant indicator, but in the absence of a recognized consensus method, it had to be side-lined for this first version of the repository.



▸ **Data underlying impacts and articulation of specific and generic data**

▸ **Type of data used for labeling**

The work group shall specify which parts of the quantified data shall necessarily be specific data and which can or shall be generic data.

The data qualification depends on:

- the relative importance of this data for the overall balance,
- the availability of the data,
- the cost involved in obtaining the data
- .

For print material, the "use" stage has no real impact; therefore there is no data to be considered for this phase.

Concerning periodic, the data required to calculate communications on a periodical can be averaged over a 12-month period.

Data used to calculate impacts:

Activity data: data relating to the activity

- **Specific data:** data measured or calculated by the company. Example: nature and quantity of the packaging material.
- **Generic data:** averaged data used by all companies of a specific sector. Example: loss rate of a specific process.
- **Semi-specific data:** data that is proposed by default and that the company can replace with primary data.

Inventory generic data sets: data available in the ADEME database.
Example: impact factors of a material

The following table summarizes the choices made for detergent modelling:

Phase	Activity data			Inventory generic data sets
	Specific data	Semi-specific data	Generic data	
Product and packaging characterization	<ul style="list-style-type: none"> - Detailed product characterization (type, format, weight, number of pages) - Data on packaging 		<ul style="list-style-type: none"> - Percentage of products going unused (unsold copies, scrap, pre-consumer waste) per type of print product (book, non-subscriber press, other). 	<ul style="list-style-type: none"> - Impact factors of raw materials and pulp, energy and processes
Paper production	<ul style="list-style-type: none"> - Facility: location, energetic data - Raw materials: type, geographic origin of the pulp, amount of fillers and pigments 	<ul style="list-style-type: none"> - Emissions (per ton of paper) 		
Printing	<ul style="list-style-type: none"> - Facility: location, printing process, manufacturing process losses... 	<ul style="list-style-type: none"> - Amount and nature of energy consumed 	<ul style="list-style-type: none"> - Technical data per process 	<ul style="list-style-type: none"> - Impact factors of raw materials, energy and printing processes
Transport	<ul style="list-style-type: none"> - Distance and type of transport of the different stages of the life cycle - Distribution channels (delivery to postboxes, point-of-sale...) 	<ul style="list-style-type: none"> - Distance from the final production process facility to the distribution platform. 	<ul style="list-style-type: none"> - Distance and type of transport for certain stages (ex: paper production facility inputs) 	<ul style="list-style-type: none"> - Impact factors of types of transport
End-of-life		<ul style="list-style-type: none"> - End-of-life processing of unused print products 		<ul style="list-style-type: none"> - Impact factors of scenario of paper and household packaging waste end-of-life



▶ Other methodological choices

▶ Allocation of manufacturing-phase impacts

The allocation of impacts associated to the pulp and paper production and printing processes shall be pro-rated to the mass of paper used.

▶ Allocation of surplus energy

If the production facilities (pulp, paper, printing, etc.) produce surplus energy, they will be awarded an environmental credit under the conditions specified in the methodology annex of BP X 30-323-0.

▶ Allocation of the environmental benefit of recycling paper

Allocations connected to the environmental impacts of recycling are partitioned between the producer and the user of recycled paper according to the requirements specified under Annex A of repository BP X 30-323-0.

▶ Accounting for time-lag in greenhouse gas emissions

Not all the emissions associated with a product life cycle take place at the same time. As greenhouse gas impact is assessed over 100 years, when emissions are significantly delayed (in relation to product manufacture), they generate fewer impacts on the greenhouse effect over this 100 year timescale.

As printed material has such a highly heterogeneous range of different lifetimes that no average can be determined, the time-lag in greenhouse gas emissions is not taken into account in this version of the guidance document.

▶ Modeling of the end-of-life

- **For print products:** the end-of-life corresponds to the national data published by ADEME concerning household waste.
- **For packaging:** the end-of-life of the packaging has to respect the end-of-life scenario of French household packaging.

▶ Data validity period and frequency of updates

A notable change in the laundry detergent causing a variation of environmental impact of more than 20 % of any of the indicators requires the generation of new environmental information.

The current evolution of materials is such that it is necessary to establish validity time. The frequency of updating of environmental information is 3 years.

▶ How data is validated

The company shall keep the information used in the calculations available for any subsequent inspection.



UNIT GLOSSARY

Indicator	Unit	Illustration
Greenhouse effect	kg CO ₂ eq.	A vehicle emits 0,13kg of CO ₂ per kilometer covered
Photochemical pollution	kg non-methane volatile organic compounds (NMVOC) eq.	A truck of goods emits 5,024 10 ⁻⁴ kg NMVOC eq. per ton of goods
Fresh water eutrophication	g phosphate eq.	A dishwasher rejects the equivalent of 6,13g of phosphate in the fresh water

ABOUT ADEME

The French Environment and Energy Management Agency (ADEME) is a public agency under the joint authority of the Ministry of Ecology, Sustainable Development and Energy, and the Ministry for Higher Education and Research. The agency is active in the implementation of public policy in the areas of the environment, energy and sustainable development.

ADEME provides expertise and advisory services to businesses, local authorities and communities, government bodies and the public at large, to enable them to establish and consolidate their environmental action. As part of this work the agency helps finance projects, from research to implementation, in the areas of waste management, soil conservation, energy efficiency and renewable energy, air quality and noise abatement.



ADEME
20, avenue du Grésillé
BP 90406 | 49004 Angers Cedex 01

www.ademe.fr