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READING GUIDE

FOR THE REPOSITORY ON TELEVISIONS BP X30-323-9

Contents

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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/packaging 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 televisions

This repository is representative of the television product category.

> 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 on televisions 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.

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[1] www.iso.org

Presentation of the product covered by the repository

▶ Introduction

The workig group on Equipment (that uses electricity), batteries and accumulators (WG2), jointly led by FICIME (Fédération des entreprises internationales de la Mécanique et de l'Electronique—international mechanical and electronic industry federation) and ADEME started meeting in **November 2008**. The work conducted in 2010 and 2011 culminated in a repository for the "Television" product category. The repository was drafted by PwC for ADEME, in cooperation with manufactures belonging to the SECIMAVI (Syndicat des Entreprises de Commerce International de Matériel Audio et Informatique, Grand public—international audio and computer equipment marketing companies union) and the SIMAVELEC (Syndicat des Industries de Matériels Audiovisuels Electroniques—electronic audio-visual equipment industry union). This repository was drafted on the basis of the results of the FNAC pilot project, which was conducted with the help of PwC.

The television repository was adopted by the general platform in June 2011.

▶ Functional unit

▶ Determining the functional unit and use characteristics

▪ Functional unit

The functional unit is the unit of measurement used to evaluate the service provided by the product.

For televisions, the chosen functional unit is the following:

"**Use of a television in a French household during 8 years, characterized by 4 hours per day in on-mode and 20 hours per day in passive standby-mode.**"

▪ Use characteristics

The lifespan selected for televisions is thus 8 years. This lifespan represents the mean length of use of a television before the user sends it off for end-of-life disposal or processing.
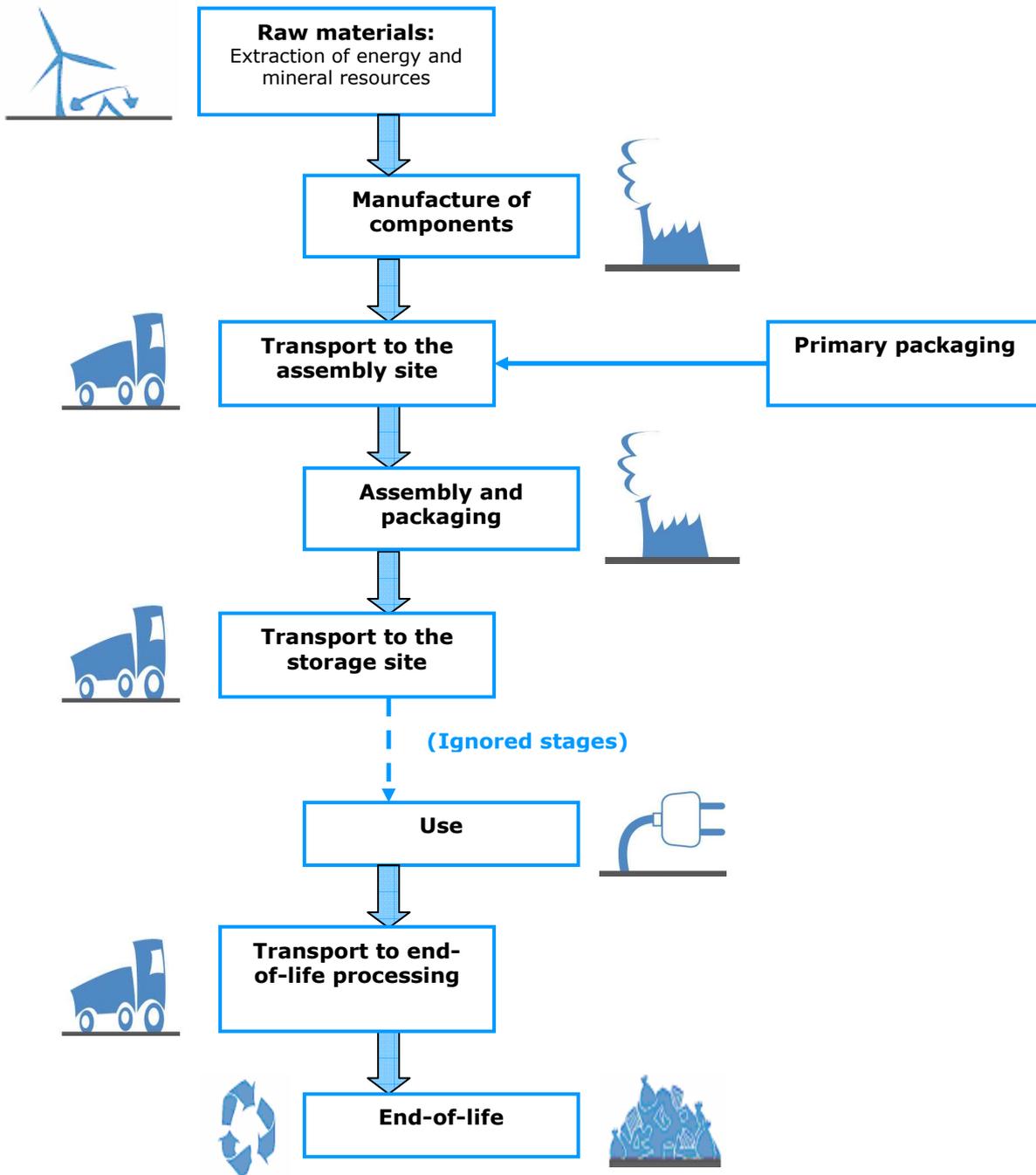
As suggested by the functional unit, another possible hypothesis on the use scenario in France is just 4h/day of on-mode operation. The scenario including passive standby-mode operation is however retained, which amounts to 20h/day in passive standby-mode.

The "active" or "network" standby-mode is not included in this repository in order to remain consistent with the final report of the EuP preliminary study. This position may however be revised once the market has evolved.

▶ Television life cycle and study scope

All the stages of the life cycle are taken into account. The only stages that are not counted are those:

- with **negligible impact on the environmental balance** of the equipment:

  o construction of the buildings of industrial facilities and tool manufacture;

  o distributor storage;

  o sale in stores;

  o transport of collected waste from primary packaging;

  o secondary and tertiary packaging;

  o after-sales services.

- that are **excluded by the** methodological repository **BP X30-323** (consumer transport is offset).

Raw materials:
Extraction of energy and mineral resources

Manufacture of components

Transport to the assembly site

Primary packaging

Assembly and packaging

Transport to the storage site

(Ignored stages)

Use

Transport to end-of-life processing

End-of-life

Television 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 televisions:

▪ Greenhouse effect:

Electricity use and the manufacturing, storage and transport activities that occur throughout the life cycle of a television result in greenhouse gas emissions that drive climate change.

▪ Non-renewable resource depletion:

Manufacturing the various components of a television requires the use of non-renewable materials and resources. Electricity use also contributes to this depletion, but to a lesser extent.

Furthermore, the presence of mercury in some televisions (LCD technology) can cause ecotoxicity problems. Since calculation methods for the ecotoxicity indicator are not yet sufficiently developed, it is still difficult to consider this indicator, but a third indicator can be examined in parallel studies.

The selection of the environmental impacts to use in environmental labelling **communication** was carried out on the basis of several criteria:
- ease of implementation for the database used by the company;
- differentiability of the impact for a majority of products on the market;
- impact coverage over the life cycle as a whole.

The following table summarizes the choices made for television modelization:

Indicators retained for televisions:
- **the greenhouse effect**, expressed in g CO_2 eq.
- **natural resource depletion**, expressed as person-reserves

(see the Unit glossary)

> Data on which impacts are based

> Type of data used for labelling

A working group shall specify which parts of the quantified data shall necessarily be primary data and which can or shall be secondary 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.

Data used to calculate impacts:

- **Primary data**: data measured or calculated by the company (also called specific data);
- **Secondary data**: averaged data used by all companies (i.e. materials impacts);
- **Semi-specific data**: secondary data that is proposed by default and that the company can replace with primary data.

Phase	Primary data	Semi-specific data	Secondary data	
Raw materials	- Composition of the product - Composition of the packaging - Characteristics of the main on-board printed circuit board - Compositions of the components surrounding the module		Environmental impacts profiles: - raw materials production - plastic, metal, paper and cardboard shaping	
Manufacture		- LCD/LED/PDP module production site - Production site of the various printed circuit boards - Number of sides and layers of the on-board printed circuit boards for power supply - Surface area of these boards - Assembly site energy use - Assembly site location	Environmental impacts profiles of manufacturing processes: - LCD/LED/PDP module - printed circuit boards	
Transport		Default values for upstream procurement transport for components and primary packaging, as well as transport from the assembly site to the distributor storage site (including air freight)		
Use	Television power level (in on- and passive standby-modes)		Use scenario (and type of energy used)	
End-of-life			*Television* - Transport - Orientation rates of waste towards each waste treatment industry by material	*Primary packaging* End-of-life of household packaging

> Other methodological choices

⊳ Co-product allocation

The amount of energy used at the final assembly site per unit produced is calculated (for each energy type).

⊳ Modelization of the end-of-life phase of a television

- **For the television:** the end-of-life scenario considered is that elaborated by the pilot studies conducted by Eco-systèmes on the end-of-life phase of flat screens in France, and is in particular based on the orientation rates of each material towards each waste treatment industry (recycling, disposal, incineration).

- **For packaging:** the end-of-life scenario is the same as that of household packaging waste in France.

⊳ Data validity period and frequency of updates

If one of the two indicators used is modified by more than 20%, calculations shall be updated.
In all cases, all data shall be recalculated after **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	g CO_2 eq.	1 tonne CO_2 eq. represents a Paris - New York round trip by plane
Non-renewable resource depletion	person-reserve	1 person-reserve represents a fraction of the resources still available per person