Revision of European Ecolabel and GPP Criteria

Furniture

Techno-economic and environmental analysis

1st Ad-hoc Working Group Meeting
7 October 2013, Sevilla
Joint Research Centre, Institute for Prospective Technological Studies

Background information

1. Labelling schemes

2. Market analysis

3. Life cycle assessment

4. Technical analysis

5. Hazardous substances

About **30 Ecolabel schemes** for furniture were identified.

- Milieukeur, Stichting Milieukeur, The Netherlands
- Marque NF Environnement, AFNOR, France
- ÖkoControl, Gesellschaft für Qual.Standards ökologischer Einrichtungshäuser, Germany
- Nordic Swan, Nordic Ecolabelling board, Nordic countries
- RAL-UZ 38, Blaue Engel/RAL, Germany
- UZ 06, UZ 34, Österreichische Umweltzeichen, Austria
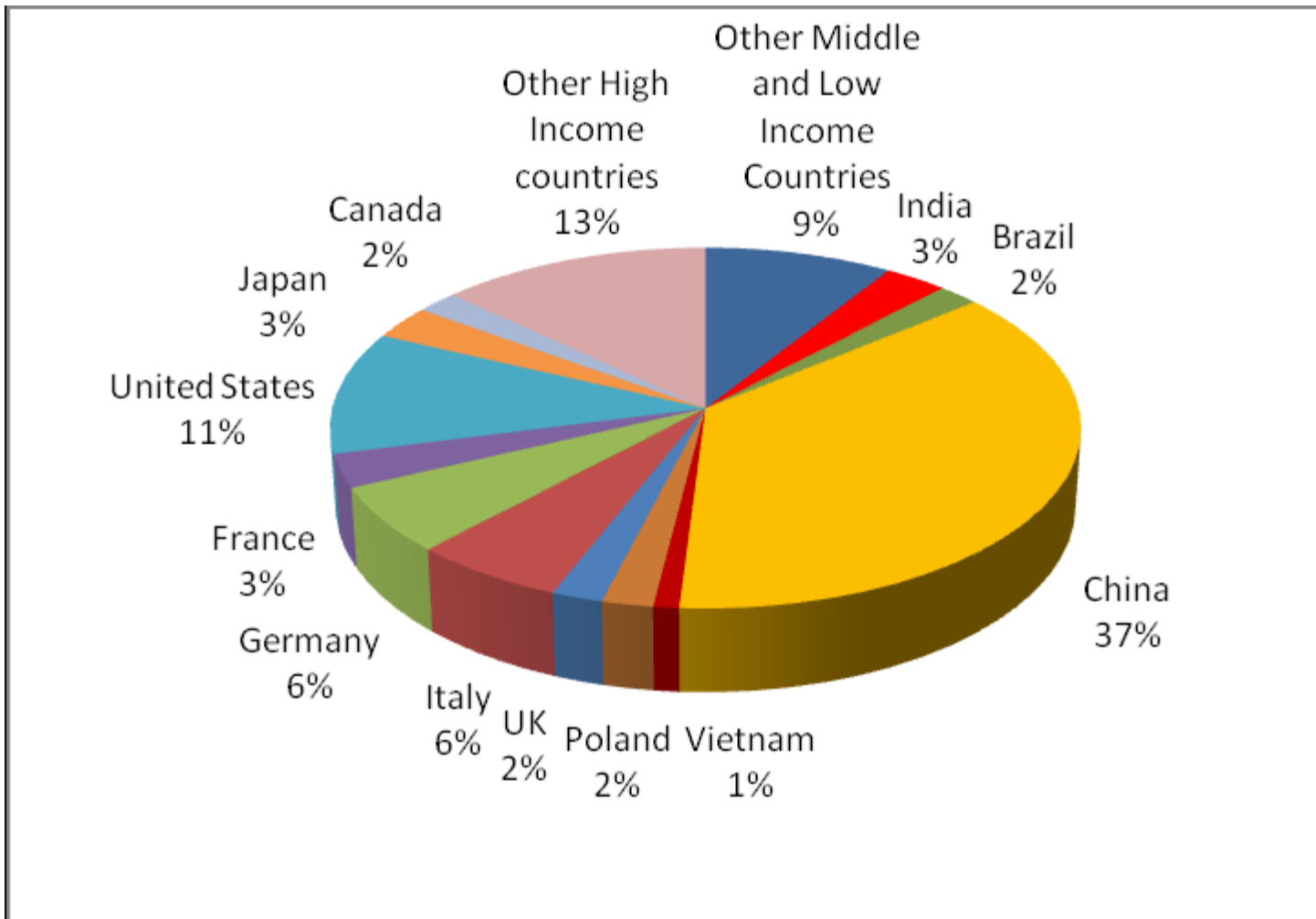
Compared regarding
  - Scope
  - Criteria (wood, metal, plastic, textile, adhesives, etc.)

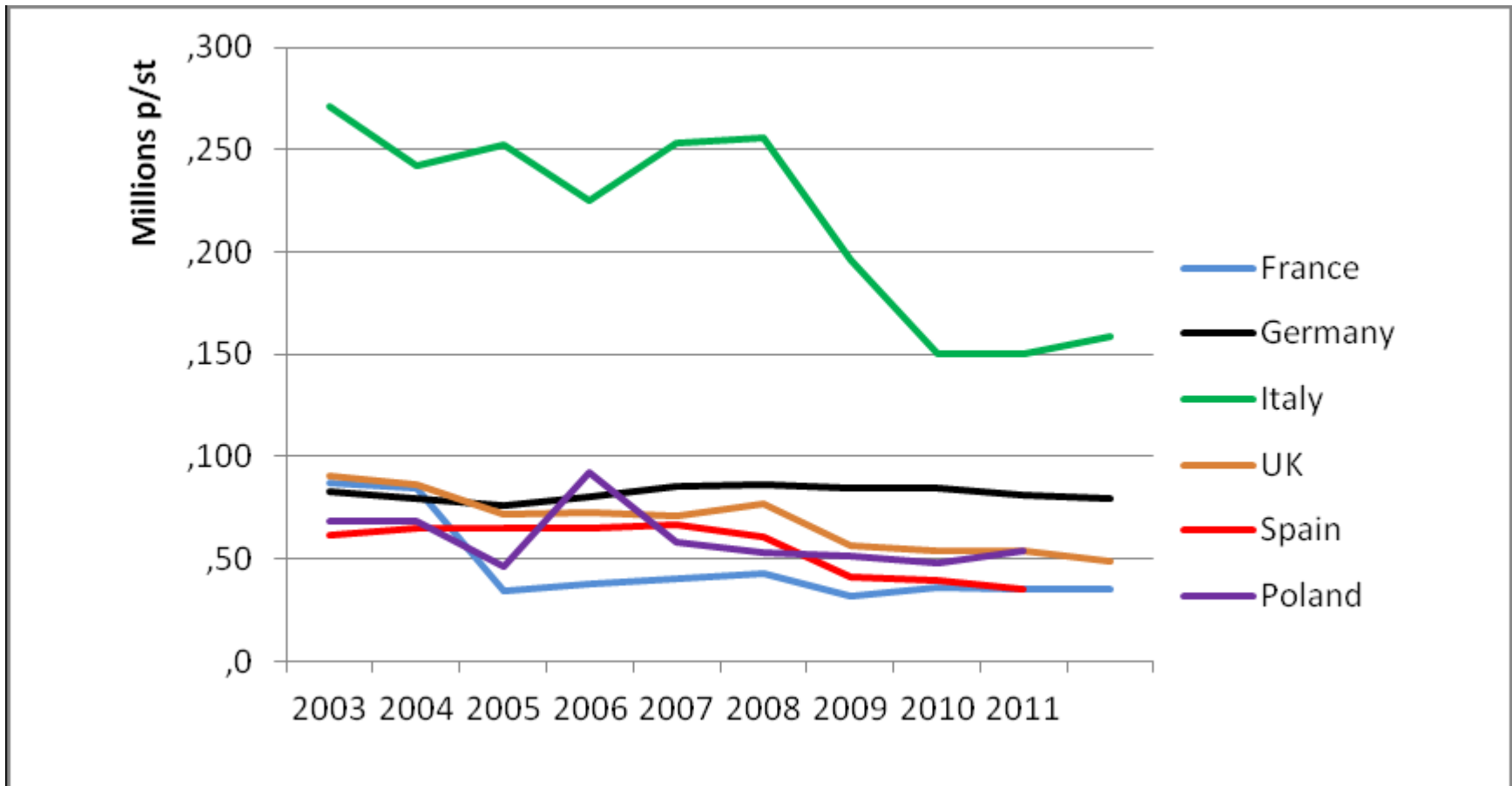These schemes might serve as reference in the current revision.

Market analysis

1. Production data per country

2. Production data for different materials

Percentage of world furniture production (2010)

European Commission

Evolution of the furniture production in the top 6 EU manufacturing countries (2003-2011)
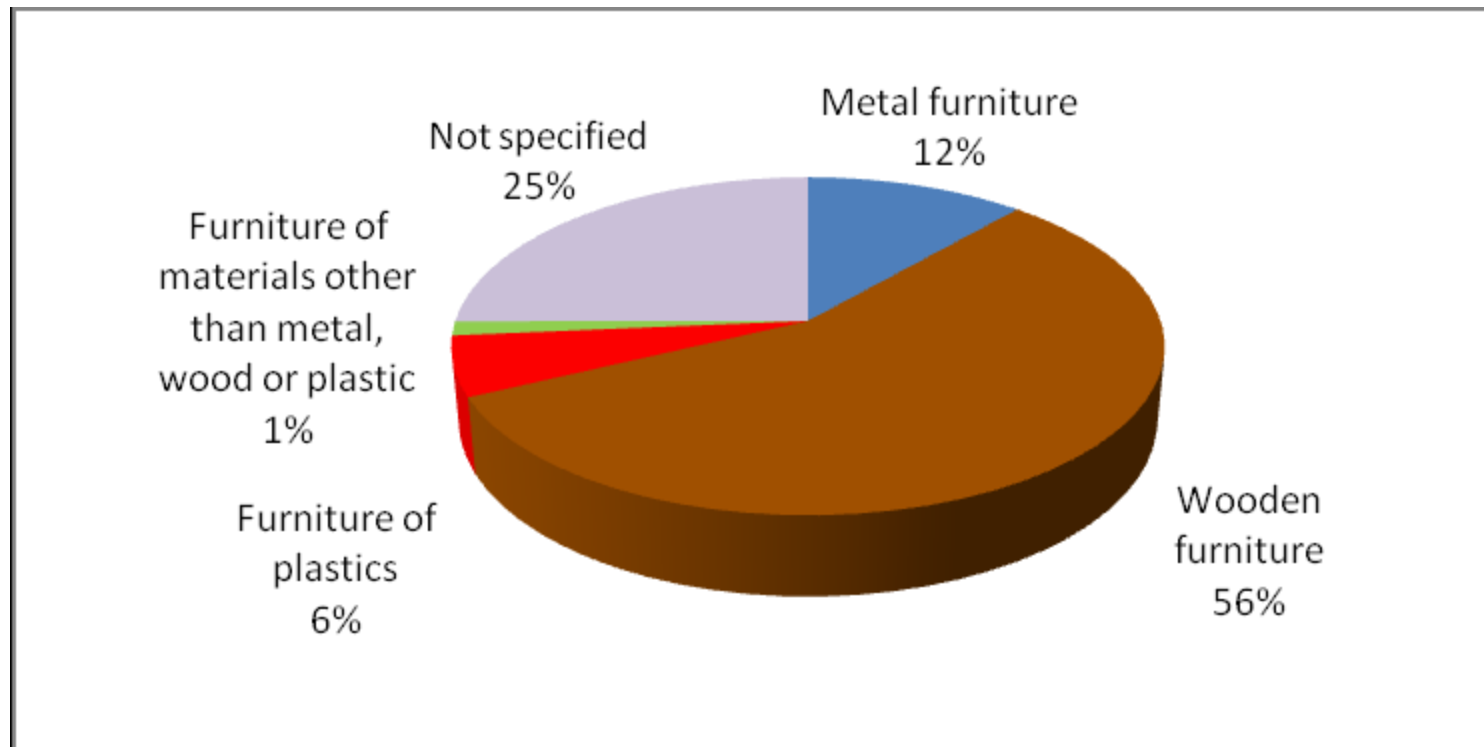

Highest production growth rate (2010 – 2011): 25% in Estonia, 24% in Lithuania, 12% in Poland and nearby 2% in Hungary.
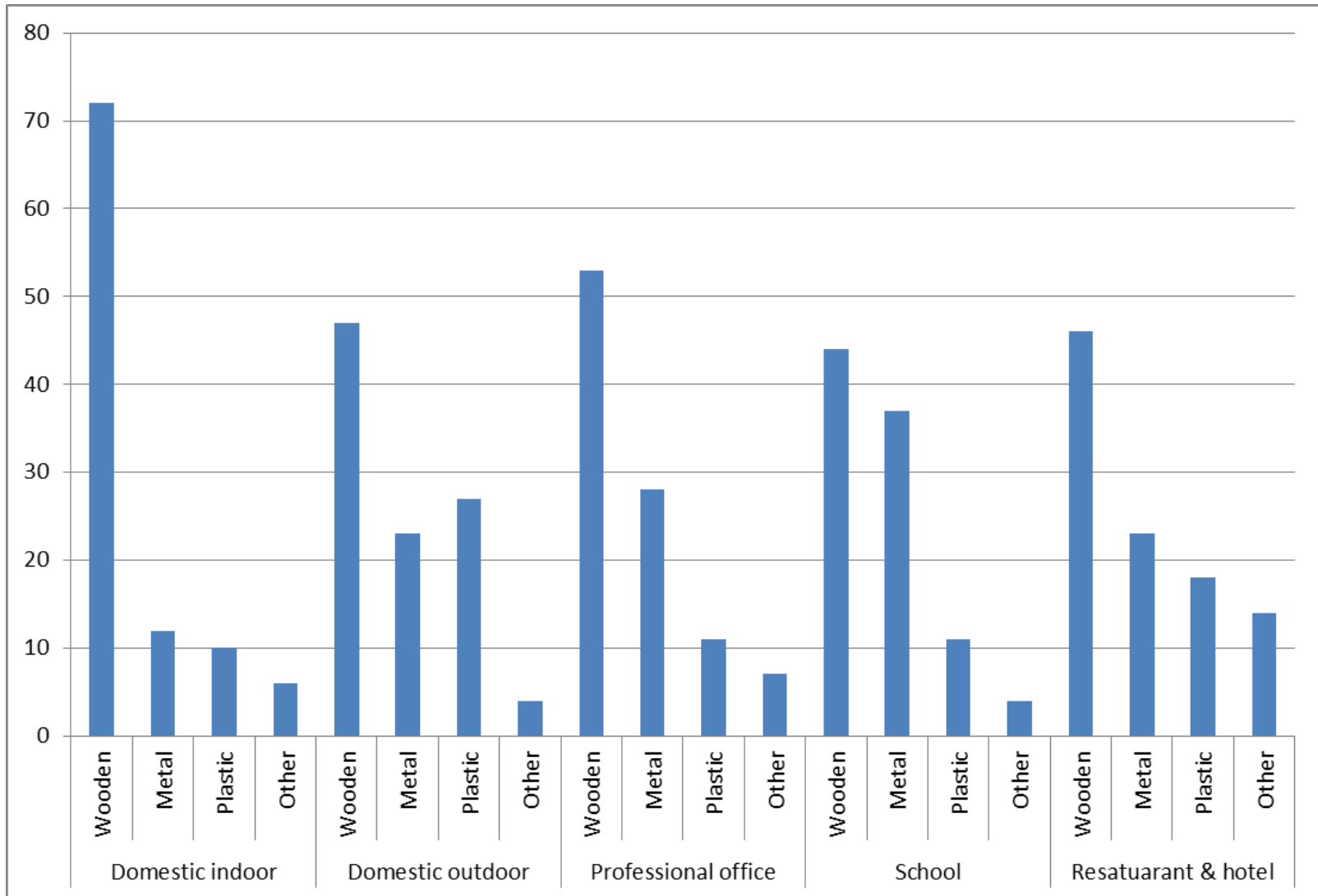
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Market analysis

1. Production data per country
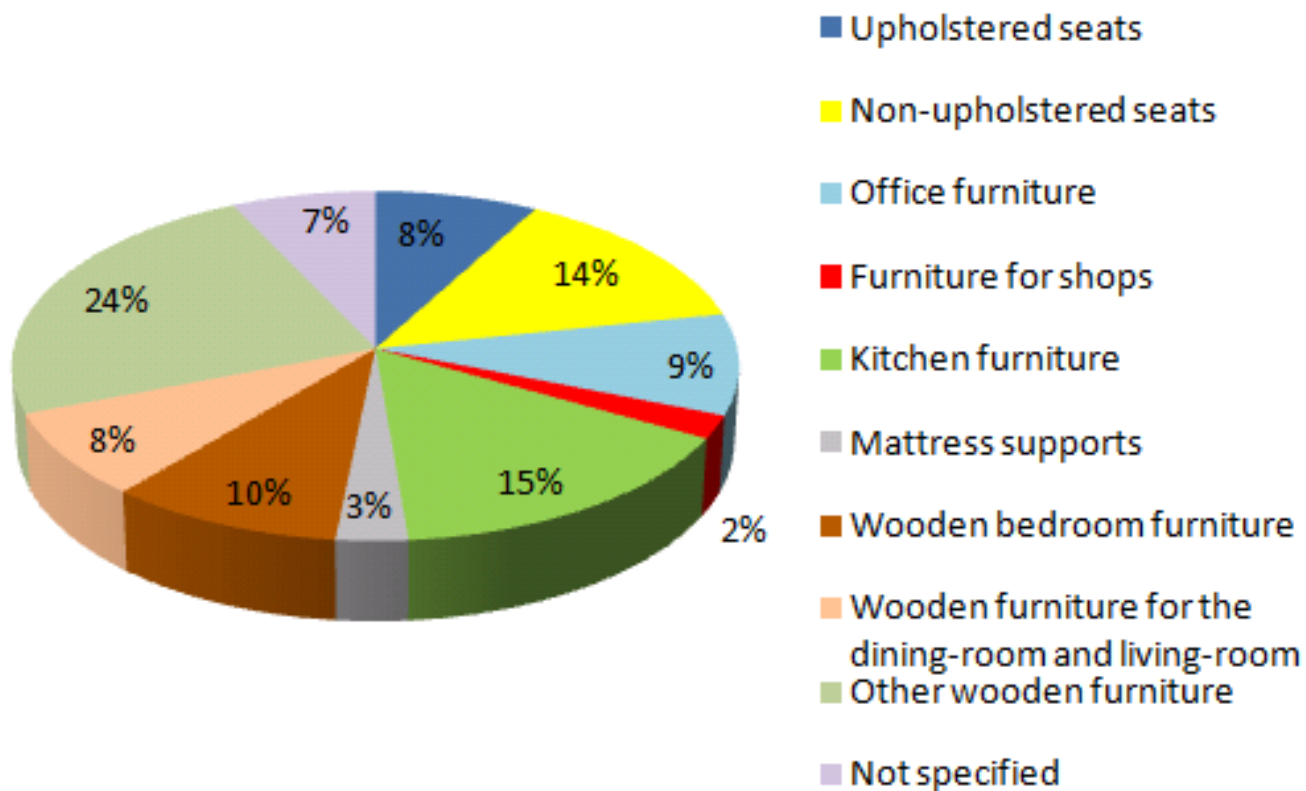
2. Production data for different materials

Furniture production in the EU-27 classified by materials (2011)

Percentage of weight of the materials in different types of furniture

Furniture production in the EU-27 classified by type (2011)

Legend:
- Upholstered seats
- Non-upholstered seats
- Office furniture
- Furniture for shops
- Kitchen furniture
- Mattress supports
- Wooden bedroom furniture
- Wooden furniture for the dining-room and living-room
- Other wooden furniture
- Not specified

Pie chart values: 8%, 14%, 9%, 2%, 15%, 3%, 10%, 8%, 24%, 7%

Life Cycle Assessment (LCA) screening

- Comprehensive review of available LCA studies for furniture products (both wood and non-wood).

- Identification of key environmental impacts for furniture.

- Identifying main environmental areas of concern and lifecycle hot-spots for the products.

Key environmental indicators

1. Greenhouse warming potential

2. Ozone depletion potential

3. Acidification potential

4. Photochemical oxidation potential

5. Eutrophication potential

Average life stages contribution for the different impact categories
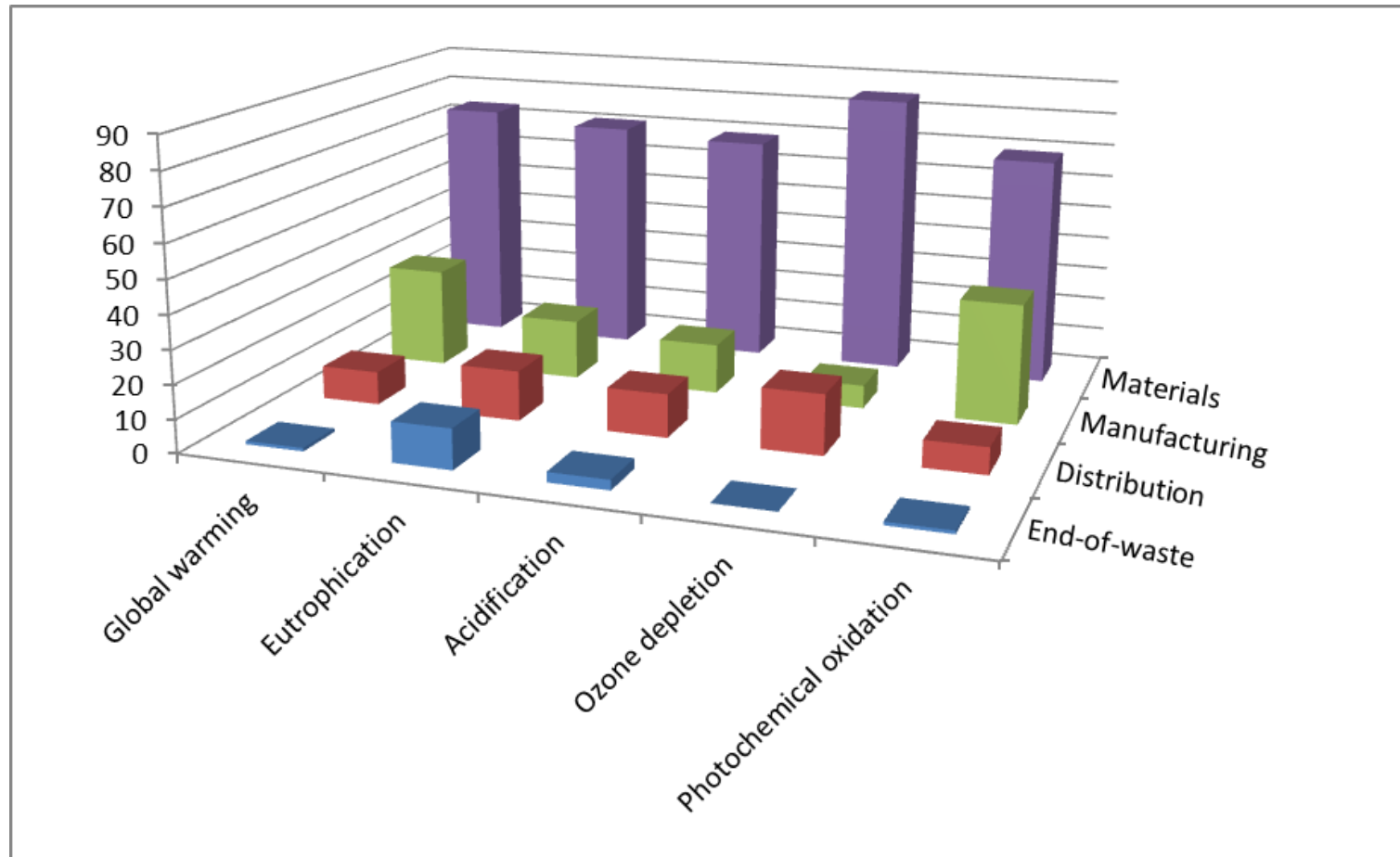
- Materials.

Greatest impact for all environmental categories.

- **Impacts for metals and plastics are generally higher than for wood** but durability is an important issue to take into account.

- A lot of energy is embedded in **virgin metals**.

- Burdens can be decreased by **improving resource efficiency and by recycling**.

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- Manufacturing.

Manufacturing seems to be the **second most relevant stage** of the lifecycle.

- **Energy consumption** is the most important parameter, especially in processes where heating is used, such as drying in painting and coating.

- The **use of adhesive and coating** substances can also be an important source of concern in some impact categories.

- Packaging.

In general its environmental load is **low but not negligible**.

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- Distribution.

- **Negligible in most impact categories, of secondary importance for some impact categories** (*e.g.* ODP and GWP).

- Improvement potential options have been found like using **local suppliers**, or improvement the **efficiency of transport**.

- Use.

When **maintenance** is included in the assessment it results to have **negligible impacts**. **Durability** is instead a key issue to minimize the impacts of furniture products.

- End-of-Life.

End-of-life impacts vary **depending of the waste treatment** scenarios.

- **Burdens due to landfilling are relatively low** compared to the other lifecycle stages.

- Significant improvement potential can be achieved by **reusing and recycling** products or parts of them or by **recovering the energy** content of waste
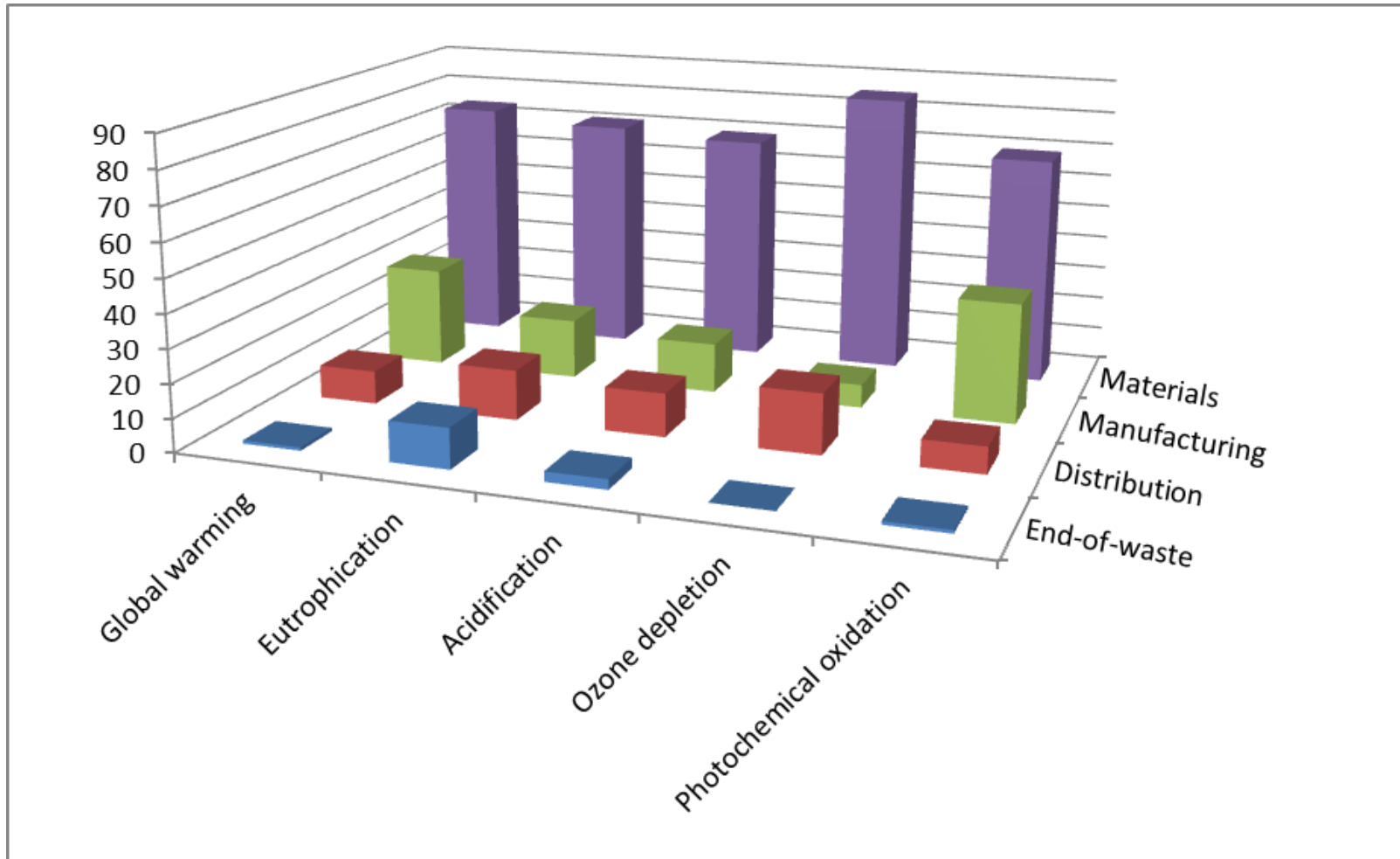
Discussion

Any comments/additional information

- o for the different ecolabel schemes investigated?

- o for the market analysis?

- o on the LCA?

Thank you