Agri-BALYSE, a public LCA database of French agricultural products

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Outline

- Legal context
- Participative process
- Agri-BALYSE database
- Preliminary conclusions
Legal Context (1)
The Law Grenelle 1

3 August 2009
Article 54

- Provide reliable and complete environmental information on “product plus packaging” for consumers
- Propose environmentally friendly products at reasonable prices
- Support Environmental Product Declaration (EPD) at the EU level
- Develop the design of the EPD step-by-step as a complement to the price information
- Plan active participation of professional stakeholders
Legal Context (2)
The Law Grenelle 2 (Senate)

November 2009

Article 85

- Starting 1 January 2011 environmental labeling of “product + packaging” has to cover
  - Carbon equivalents
  - Consumption of natural resources or impacts on natural compartments
- Further specification of implementation by category of products is required
- Special consideration of the needs of small and medium enterprises (SME)
Legal Context (3)
The Law Grenelle 2 (Parliament)

May 2010
Amendment (also accepted by Senate)

- A one-year experimental phase of environmental labeling must start on 1 July 2011
- Evaluation of the experimental phase after completion
- If successful, expansion of the approach chosen by the Parliament, based on the experience of the experimental phase
Participative process (1)
Governance of work for the bodies in charge

- **General Platform**: decision-making and coordinating body bringing together the participating parties

- **Work Groups**: preparation of proposals validated by the platform

- **General Platform** and **Work Groups** open to consultation by all participating parties

- **Public information**: 
  http://affichage-environnemental.afnor.org
Participative process (2)
ADEME / AFNOR Platform

- General Platform
  - Methodological Work Group
  - Sector Work Groups
  - Labeling format Work Group
    - Pilot projects
    - Database governance committee
Participative process (3)
Sector Work Groups (active)

1. Foodstuff and animal feed
2. Electrical and electronic equipment
3D. Maintenance products
3J. Garden products
4H. Hygiene
4B. Beauty
5. Clothing, home textiles // Shoes, leather goods
7. Furniture
8. Stationary, publications, leisure, culture, writing materials
10S. Sports equipment
10J. Toys and games
11. Non-electrical tools and hardware
12. Financial services
Participative process (4)

Key figures

- **General Platform:**
  - 370 organizations represented by ~500 registered experts

- **Sector Work Groups:**
  - ~800 registered experts
  - 49-270 experts in each (mean = 120)

- **Total:** Platform + transverse and sector Work Groups
  - 670 organizations represented by 1000+ experts

- Note: some experts are registered in several groups
Participative process (5)
Stakeholders represented in the General Platform

- Industrial producers: 25%
- Professional groups: 20%
- Retailers: 10%
- Consultancy/Training: 26%
- Technical Centres: 5%
- Normalisation bodies: 1%
- Administration: 5%
- Employees' unions: 1%
- NGOs: 1%
- Certifying bodies: 2%
- Teaching / Research: 2%
- Consumer associations: 2%
Participative process (6)
Methodology: Document BP X30-323

- Life Cycle Assessment (LCA) Approach
- Greenhouse gas emissions (CO₂ equivalents) constitute a transverse indicator
- Multicriteria approach: identification of other pertinent indicators per sector, such as, for WG 1 (Foodstuff and animal feed):
  - Biodiversity
  - Water pollution (eutrophication and aquatic ecotoxicity)
  - Water use
- Generic public database
- Transverse and sector methodological rules
Participative process (7)
General methodological rules

- **Methodological appendix**
  - Transverse methodological framework
  - Clarification of open points of ISO 14040 / 14044 standards
    - End of life, cut-off rules, exclusions
  - Revision process in progress

- **Reading guide to the methodological appendix**
  - Explanation and illustration of methodological choices
  - Available free of charge at [www.ademe.fr](http://www.ademe.fr) (in French)

- **Publication procedure**
  - Available on the ADEME website
  - **Evolving document**: Rapid and successive updates and revision possible
  - Development in line with approved standard statute possible in the future
ADEME Database
Data generation in general

<table>
<thead>
<tr>
<th>Since late 2010</th>
<th>Data generation (except for agricultural and marine products)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Purchasing of user rights from other databases and data specialists (ecoinvent, PE, PWC, BV, FCBA, CTC, etc.)</td>
</tr>
</tbody>
</table>

- Most **required data do exist already** in current databases (ecoinvent, DEAM, Gabi, BV, etc.)
- Even though they already exist, they **must be adapted to the French EPD methodological framework**
- Adaptation et Usage rights to be **negotiated** with the owner of existing databases
  - Call for tenders?
  - Partnership framework agreement with bilateral contracts?
- **Data purchasing management by ADEME**
  - Consultation of the Governance Council with the owners of the existing databases
Agri-BALYSE database (1)

Objectives, target groups

Objectives

1. Environmental Labeling
   Provide a public database of life cycle inventories (LCIs) of agricultural products at the farm gate as a basis for environmental labeling (as part of the ADEME database)

2. Life Cycle Thinking in the Agri-food sector
   Support the environmental optimization of agricultural production systems by means of an LCI database and a common methodological framework for LCA of agricultural systems

Target groups

1. All actors of the food chain, including consumers
2. Farming industry, research, extension services
Agri-BALYSE database (2)
Expected benefits

Expected Benefits
1. Enabling environment-based purchasing decisions
2. Environmental optimization of agricultural production systems

Project Duration
2010-2012
Agri-BALYSE database (3)

Partners

- **Commissioner**
  - ADEME ⇒ French Environment and Energy Management Agency

- **Agents**
  - ART ⇒ Project co-leadership - Plant production systems and database issues
  - INRA ⇒ Project co-leadership - Animal production systems
  - CIRAD ⇒ Tropical products (overseas departments/other countries)
  - ACTA and 10 technical agricultural institutes
    - Data collection and implementation in practice

- **Project bodies**
  - Project management Committee ⇒ all operational responsibilities
  - Strategic Committee ⇒ all strategic decisions
  - Consultation Committee ⇒ including all stakeholders
  - Review Body (quality control) ⇒ APCA (Chambers of Agriculture)
Agri-BALYSE database (4)
Principles for selecting products

- **Target**
  Inventories for approx. 80 agricultural products

- **Basis of selection**
  - Analysis of consumption behavior in France
  - Input from institutes for applied agricultural research
### Agri-BALYSE database (5)

Selection according to strategic relevance:

<table>
<thead>
<tr>
<th>Plant production - ART</th>
<th>Animal production - INRA</th>
<th>Tropical crops - CIRAD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>30-40 products</strong></td>
<td><strong>30-40 products</strong></td>
<td><strong>5-6 products</strong></td>
</tr>
<tr>
<td>2. Faba bean</td>
<td>25. Turkey</td>
<td>40. Coffee (Brazil)</td>
</tr>
<tr>
<td>4. Sunflower</td>
<td>27. Duck</td>
<td></td>
</tr>
<tr>
<td>5. Wheat</td>
<td>28. Rabbit</td>
<td></td>
</tr>
<tr>
<td>6. Durum</td>
<td>29. Eggs</td>
<td></td>
</tr>
<tr>
<td>7. Barley</td>
<td>30. Trout</td>
<td></td>
</tr>
<tr>
<td>9. Starch potato</td>
<td>32. Bream</td>
<td></td>
</tr>
<tr>
<td>10. Sweet corn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Rice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Sugar beet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Apple</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Peach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Tomato</td>
<td></td>
<td></td>
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<tr>
<td>16. Carrot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Wine grapes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Red wine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. White wine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Rosé wine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Sparkling w.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Cider apples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Roses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Agri-BALYSE database (6)

**Detail level**

- On average 2 LCIs per product will be supplied

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Plant production - ART</th>
<th>Animal production - INRA</th>
<th>CIRAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30-40 products</td>
<td>30-40 products</td>
<td>5-6 products</td>
</tr>
<tr>
<td></td>
<td><strong>60 to 80 inventories</strong></td>
<td><strong>60 to 80 inventories</strong></td>
<td><strong>6 inventories</strong></td>
</tr>
<tr>
<td>Level 2</td>
<td>30-40</td>
<td>30-40</td>
<td>6 inventories</td>
</tr>
<tr>
<td>National average</td>
<td>Production mode</td>
<td>Organic / other label</td>
<td>National average</td>
</tr>
</tbody>
</table>
For the following direct emissions, simulation models will be used:

- Nitrate (NO₃)
- Ammonia (NH₃)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Phosphorus
- Heavy metals (Cd, Cu, Zn, Pb, Ni)

Simulation models need to be adapted to the French situation.

Evaluation of the appropriate models is ongoing.
Agri-BALYSE database (8)
Project calendar

Experimental Phase (Loi Grenelle)
- Project management
- Goal and scope definition
- Selection of calculation models
- Tools and User’s Guide
- Inventory analysis
  - Data collection
  - LCI calculation
- Review

Project timeline:
- All: Green
- CP: Purple
- ANR/INRA: Blue
- Technical Institutes: Red

Key dates:
- First LCI’s available
- All LCI’s available

Timeline from 06/10 to 12/12.
Agri-BALYSE database (9)

Current status

- **Results**
  - **First LCI** should be available by September 2011

- **Next steps**
  1. **Defining the products** and any alternate versions
  2. **Adapting the data collection tool** to French conditions as well as to different products
  3. Writing a **“User’s Guide for data collecting”** to ensure comparable inventories
Preliminary conclusions

- LCA research needs to actively support initiatives like this one by assuming the scientific responsibility for LCI data
  - Clear shared commitment of INRA and ART for the agricultural sector in France
- LCA research must consider the legal context and organization procedures as givens (i.e., not try to influence them)
  - Participative approach instead of technocracy
- Combination of EPD and Life Cycle Thinking, i.e. of static (observation) and dynamic approaches (improvement strategies), is challenging