

# IMPLEMENTATION OF A POEMS MODEL IN THE WOOD FURNITURE SECTOR

R. Luciani, P. Masoni, C. Rinaldi, A. Zamagni

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# The context

- IPP fosters the growth of a market of green products and services, stimulating, from the demand side, the consumers to buy environmental friendly products (that, therefore, should be recognisable as such) and, from the supply side, the product eco-innovation by firms.
- The promotion of a real and wide eco-innovation process is therefore crucial for the success of IPP
  - The involvement and motivation of a large number of firms, SMEs included, is then a must
- A Product Oriented Environmental Management System (POEMS) could be an efficient IPP tool for the promotion of greener products through:
  - Stimulating the continuous improvement of their life cycle;
  - making them easily recognisable in the market by means of an environmental label (described in another presentation)

# Why a new tool?

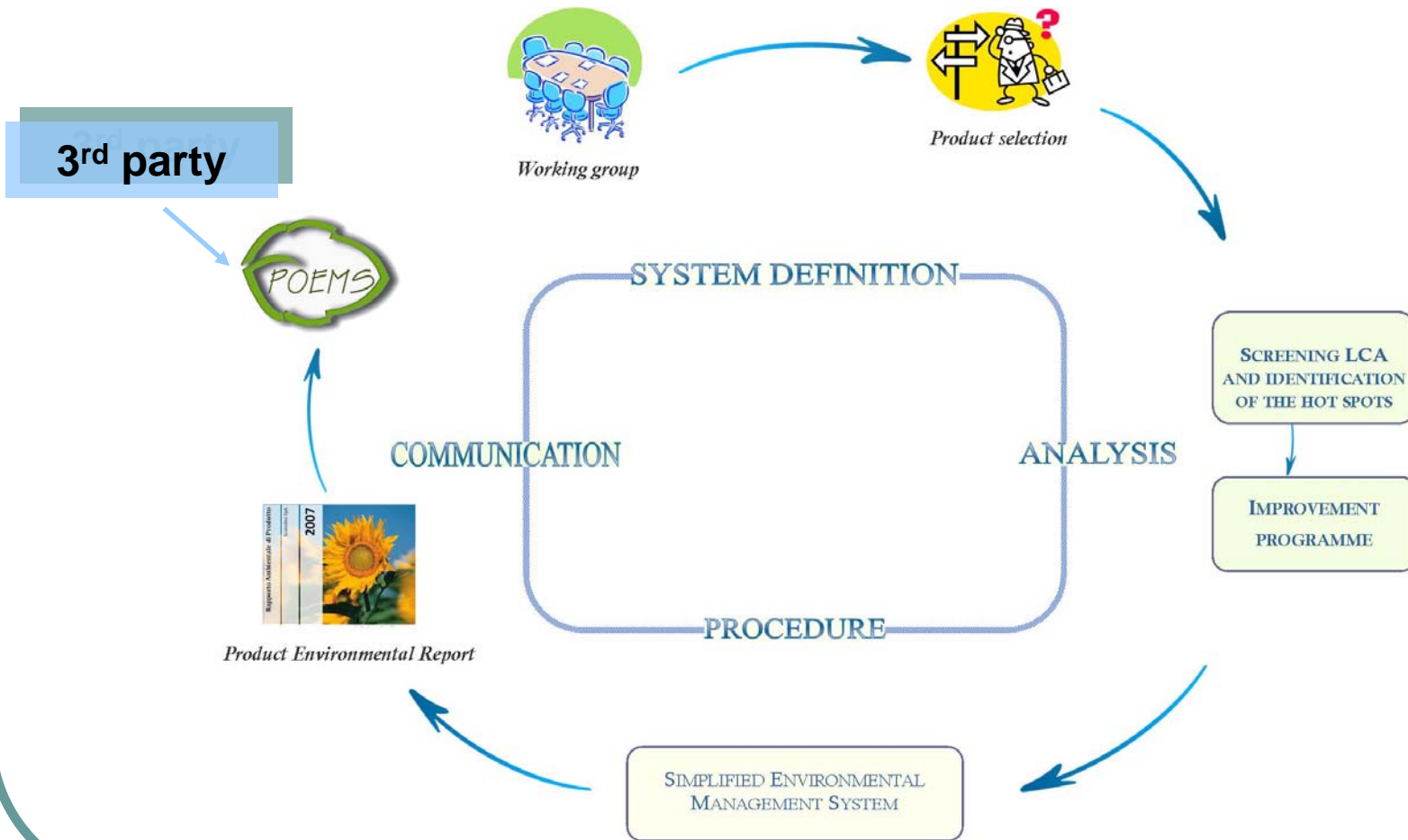


- **Firms and consumers are often confused in front of the different environmental claim and declaration tools, so, why are we proposing a new one?**
- The existing standard communication tools do not meet all the needs of the entire spectrum of products. For example:
  - **ISO Type I** environmental labels. Not for all product categories ecolabel criteria are available. The process to develop them is very long and difficult and it is out of the possibility of many individual enterprises. In addition, it seems not suitable for very fast changing products.
  - **ISO Type II** environmental claims. Their credibility has been often questioned. Moreover, they cover only single aspects, not the overall environmental quality of the product.
  - **ISO Type III** environmental product declarations. Very tailored to B2B communication but not very suitable for B2C, as they requires a good technical knowledge for their interpretation. Moreover, they require a not negligible initial investment for Product Category Rules development, their consultation and for the detailed LCA study. It requires, in addition, a not negligible cost for its maintenance.

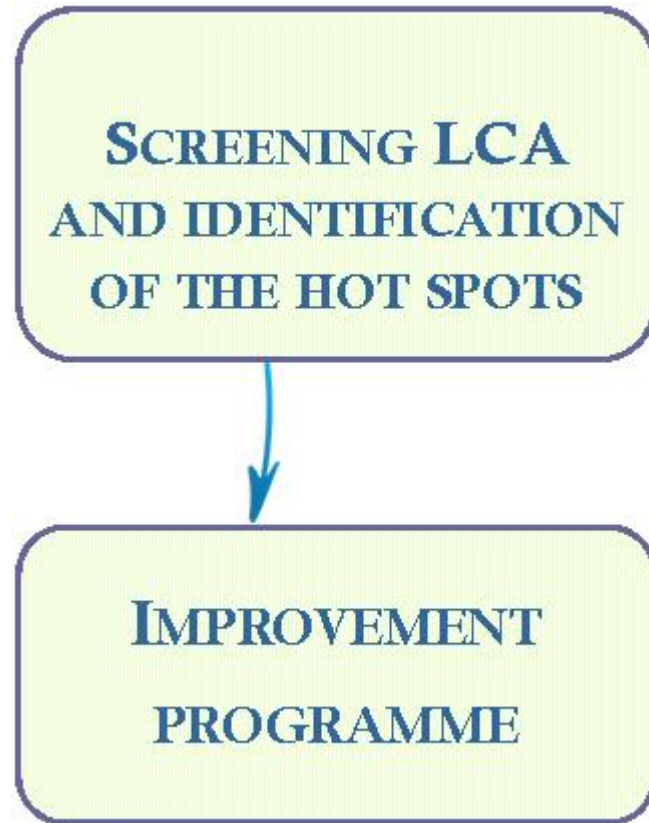
# POEMS main features

- **simplified procedures** derived from ISO 14000
- **LCA** that aims also at increasing the influence on those potential environmental aspects outside the gate of the firm, through the *involvement of the supply chain*.
- the **continuous improvement principle**:
  - ✓ allows gradual approaches and commitments by the firms;
  - ✓ increases the consciousness of the firm towards environmental issues;
  - ✓ has an immediate effect on the environmental performances of products;
  - ✓ it does not require *pre-defined criteria*.
- Supporting **software tools and database**:
  - ✓ eVerdEE + DIM, TESPI ([www.ecosmes.net](http://www.ecosmes.net))

# POEMS procedure



# Continuous improvement of LC of the product

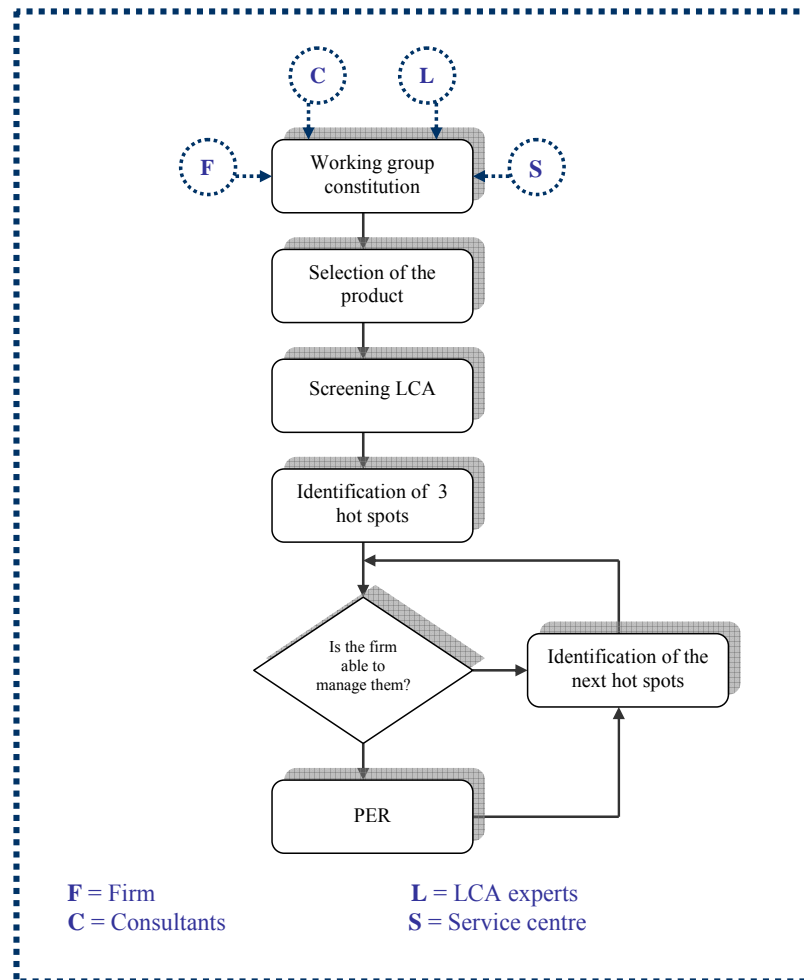


1. (screening) LCA of the product selected;
  2. Identification of the three environmental hot spots from the normalised results;
  3. Definition of objectives and environmental targets that the firm is committed to achieve, identification of how to achieve them
  4. Definition of a procedure for the control of the other environmental problems;
  5. After the achievement of the goals, repeat the LCA study in order to verify the real improvements.
- **Start again the process from 2 to 5 with the definition of other environmental targets**

# Pilot activity with firms (LAIPP project)

- Goal of the pilot: to test the POEMS model on 3 different leader firms of the furniture sector, in order to highlight its limits and opportunities, in terms of methodological aspects, developed tools, method of work and applicability:
  1. **Elica**: cooker hoods;
  2. **Scavolini**: kitchen furniture;
  3. **Upper**: office furniture.

# Pilot activity to test the POEMS label



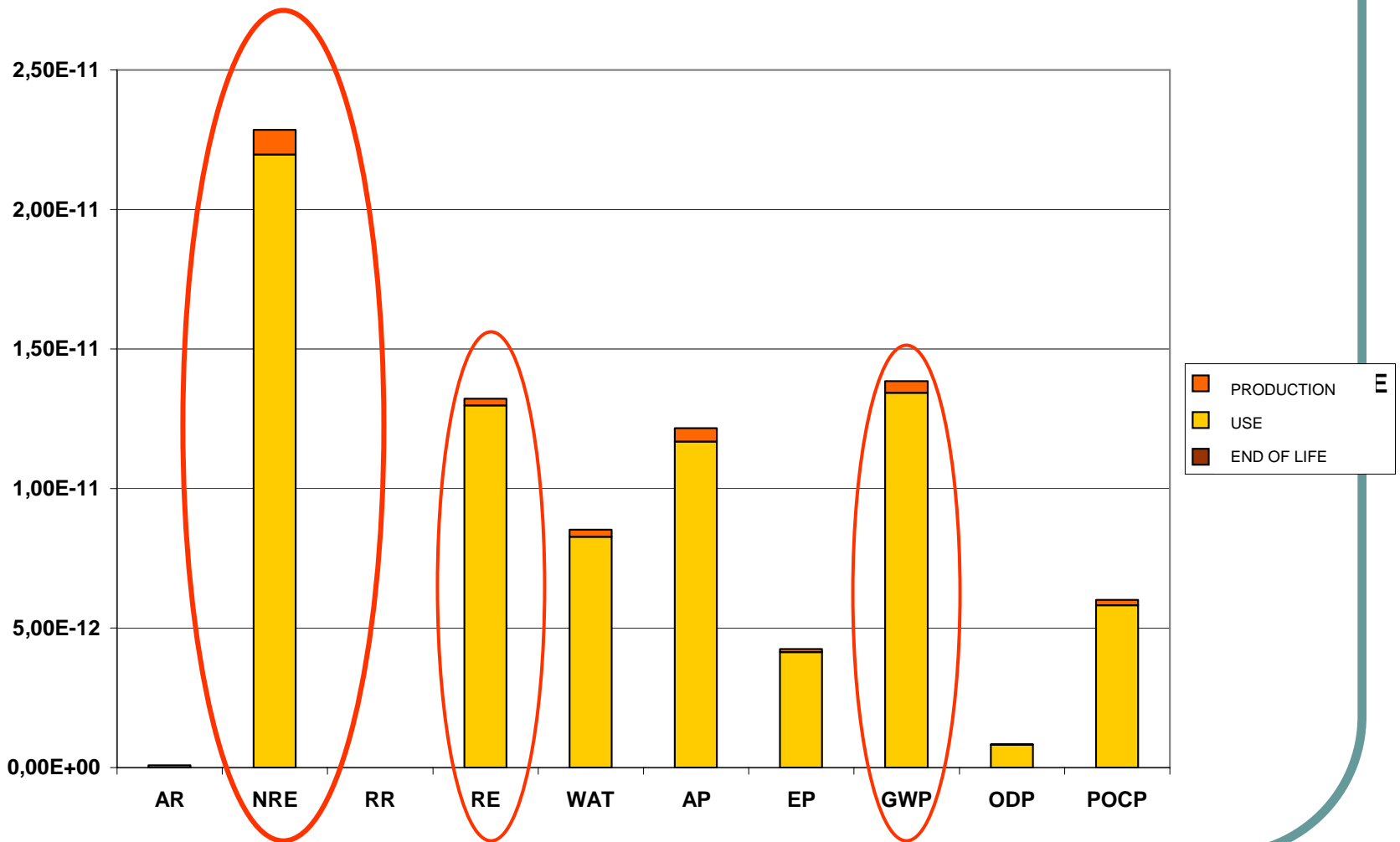
# Working group establishment

- ***Firms:*** the Environment - Health and Safety and Quality manager, product designers and developers, depending on the size and internal organisation of the firm
- ***LCA experts:*** support in carrying out the LCA and in the identification of the hot spots
- ***EMS consultants:*** support in the EMS implementation
- ***Technical Service Centres and sector experts:*** deep knowledge of processes, technologies, and markets for the wood furniture and mechanical industry.

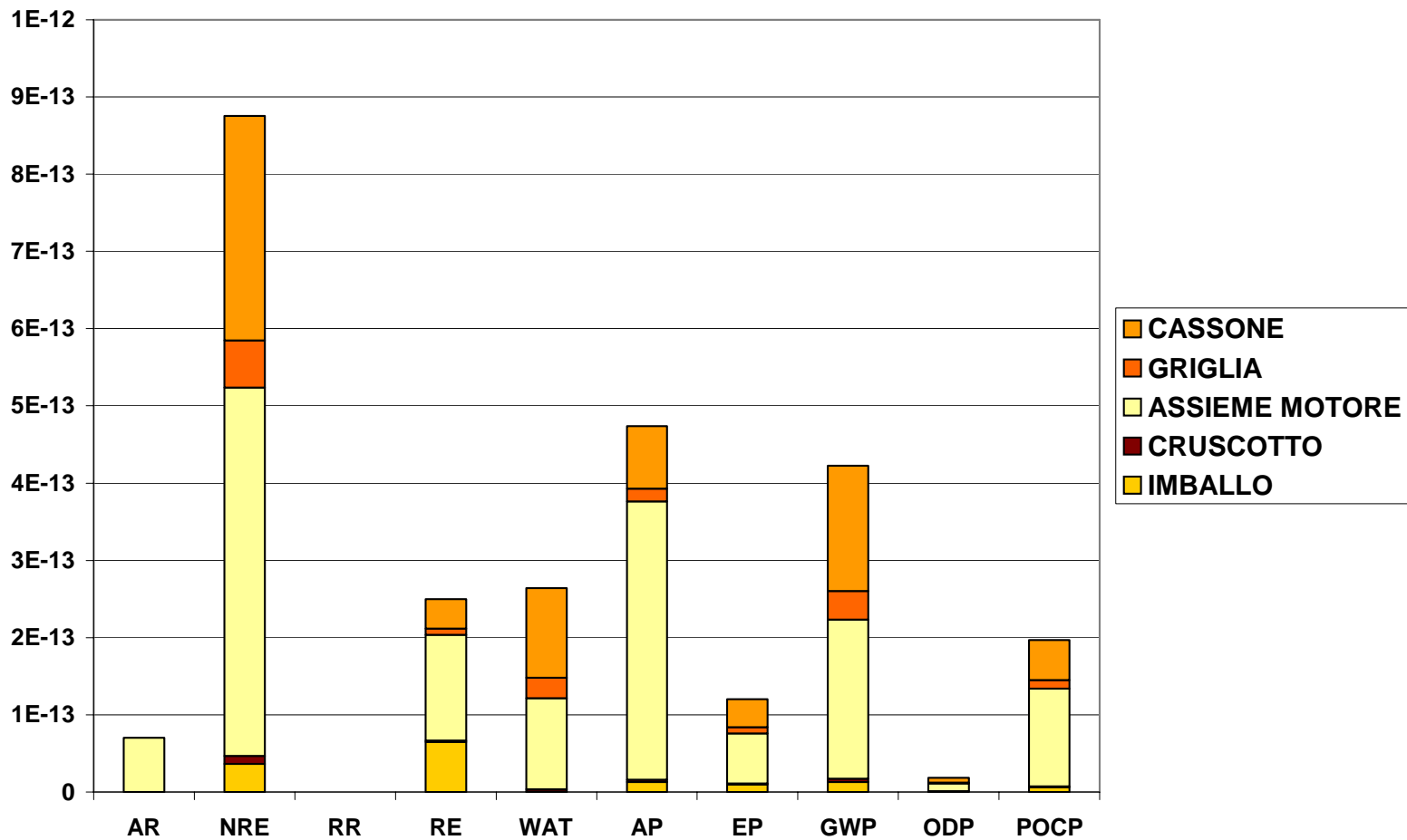
# Life Cycle Assessment

- In Scavolini and Upper we used the simplified LCA tool **eVerdEE** (available on line at [www.ecosmes.net](http://www.ecosmes.net))
- The realisation of a **sector-specific LCA database**, DIM, fully integrated within eVerdEE, allowed the **firms themselves to carry out the studies**, with the support of LCA experts.
- The characteristics of ELICA (electromechanical products, large R&D department, familiarity with computer-aided design, in-house technical competencies), allowed the performing of a detailed LCA study.

# Identification of hot spots: normalization, cooker hood



# Contribution of the components to the impact categories



# Improvement programme

- Difficult phase, since the firm is not always able to manage the hot spots identified. Indeed, they can be:
  - ✓ Related to **upstream processes not directly controlled** (i.e. production of primary aluminium for office desks);
  - ✓ related to **materials or semi-finished products** that represent the core of the production and cannot be easily replaced or reduced (i.e. wood particleboard in kitchen production);
  - ✓ related to **consumer's behaviours** on which direct specific actions cannot be undertaken (i.e. the use of the cooker hood).
- On the other hand, the firm has the opportunity to start a **different relation with the suppliers**, that can be involved directly in the product improvement, and with the **customers** for a better use of the product

# Implementation of the EMS

- The system is based on ISO 14001 with simplifications and an orientation to the product, i.e.:
  - The management of the emergencies associated to the product, the ecodesign procedure,...;
  - The environmental policy, the objectives and the environmental program are focused on the product life cycle;
  - Compliance to regulations concerns only the environmental laws related to the product and not to the whole industrial activities.

# Conclusions

- The pilot application of the POEMS procedure in three different firms showed clearly the advantages of the proposed model:
  - The life cycle approach with the help of a screening LCA tool as eVerDEE allows the firms to
    - obtain a deeper knowledge of the product and
    - better orient the interventions and the resources available, by improving the product not only from the *environmental* but also from the *technical* and *performances* point of view;
  - The EMS approach is easily understood by the firms as it is very close to ISO 9000 – ISO 14000
- The communications aspects (PER + Label) are discussed in an other presentation (TU 2.14)

# Conclusions

- A deeper analysis of the results is necessary, in order to analyse if a well balanced trade-off between simplification of the tool and sound reliability of the results has been achieved (test with other firms).
  - ▼ The studies, carried out both with **eVerdEE and GaBi**, gave the same results in terms of identification of the most significant environmental aspects.
  - ▼ These results have to be further deepened, but represent a first confirmation of the validity of the proposed simplified approach.
- In parallel, **UNI**, the Italian Standardisation Body, is working on the development of a **Technical Report** based on the proposed POEMS model.
- The achieved positive results allow for a continuation with the following steps: the institution of the labelling program operator, the certification procedures, the label granting and its test with the market.

# Contacts

**Paolo Masoni**

E-mail:

[paolo.masoni@bologna.enea.it](mailto:paolo.masoni@bologna.enea.it)



+39 051 6098 424

Web-sites of the project:

[www.laipp-eu.com](http://www.laipp-eu.com)

[www.ecosmes.net](http://www.ecosmes.net)

