

6-6-2016

# LCA to start and perform green public procurement for funeral products

Francesco Baldoni

*PhD, Esalex srl,, info@esalex.eu*

Valeria Bettini

*Esalex srl*

Alessandro Buosi

*AMNU SpA*

Roberto Bortolotti

*AMNU SpA*

Follow this and additional works at: [http://dc.engconfintl.org/lca\\_waste](http://dc.engconfintl.org/lca_waste)



Part of the [Engineering Commons](#)

## Recommended Citation

Francesco Baldoni, Valeria Bettini, Alessandro Buosi, and Roberto Bortolotti, "LCA to start and perform green public procurement for funeral products" in "Life Cycle Assessment and Other Assessment Tools for Waste Management and Resource Optimization", Professor Umberto Arena, Second University of Naples, Italy Professor Thomas Astrup, Denmark Technical University, Denmark Professor Paola Lettieri, University College London, United Kingdom Eds, ECI Symposium Series, (2016). [http://dc.engconfintl.org/lca\\_waste/12](http://dc.engconfintl.org/lca_waste/12)

This Abstract and Presentation is brought to you for free and open access by the Proceedings at ECI Digital Archives. It has been accepted for inclusion in Life Cycle Assessment and Other Assessment Tools for Waste Management and Resource Optimization by an authorized administrator of ECI Digital Archives. For more information, please contact [franco@bepress.com](mailto:franco@bepress.com).

# LCA TO START GREEN PUBLIC PROCUREMENT FOR FUNERAL PRODUCTS

Francesco Baldoni, PhD, Esalex srl  
Valeria Bettini, Esalex srl  
Alessandro Buosi, AMNU SpA  
Roberto Bortolotti, AMNU SPA



**Engineering Conferences International**  
32 Broadway, Suite 314 - New York, NY 10004, USA  
Phone: 1 - 212 - 514 - 6760  
[www.engconfintl.org](http://www.engconfintl.org) – [info@engconfintl.org](mailto:info@engconfintl.org)

*Life Cycle Assessment  
and Other Assessment Tools for  
Waste Management and Resource Optimization*

June 5 -10, 2016  
Grand Hotel San Michele, Cetraro (Calabria), ITALY

## Slide sequence:

- presentation
- 1: introduction
- 2: aim of the project-work
- 3: material and methods
- 4-5-6: results and discussion

ESALEX srl

"Thinking and making green to live better!"



**"We activate green actions of economic value, measured in CO2 emissions and social impact"**

<http://www.amnu.net>



The screenshot shows the AMNU S.p.A. website homepage. At the top left is the AMNU logo with the word 'Home' below it. To the right are logos for RINA (RINA 81.01845.1900) and EMAS (EMAS 12573.2008). Below the logos is a wide landscape photograph of a rural area with rolling hills and a dirt road. Underneath the photo is a navigation menu with links: News | Società | Attività | Modulistica | Bandi di gara | Società trasparente | Certificazioni | Contatti. A search bar labeled 'Cerca nel sito...' is on the right. The main content area is titled 'Società' and contains three paragraphs of text. To the right of the text is a vertical list of links: Società, Storia, La mission, Gli amministratori, Le società partecipate, Società trasparente, I numeri, Lavora con noi, Modello organizzativo, and Links.

**AMNU S.p.A.**

is a public company,

that operates  
in the Province of Trento (Italy)  
on urban waste collection/transport  
and  
on funeral service management

it has the result of 82% recycling  
waste in 18 municipalities

it is EMAS registered,



<http://www.esalex.eu>



## ESALEX srl is

- an italian SME focused on environmental matter
- An innovative and research-oriented consultancy, specialized both in environmental management system (ISO 14001/EMAS, LCA applications) and waste/wastewater treatment plant management, and ISO 9001 certified since 2010
- qualified by Public Administration through MEPA (ITA), MEPAT (Trento Province), START (Tuscany Region), NEXT (Marche Region)
- Accredited as “account manager” in France by HQA (INIES database for construction material)
- Associated to “Rete Italiana LCA”

and its CEO is **Francesco Baldoni** that is

- PhD in Industrial Chemistry
- Waste and wastewater treatment plant management experience
- EMAS Verifier accredited IT-V-0015
- EMS Auditor for long time and certified
- biologist



# introduction

## AMNU S.p.A.

is involved in **GPP** (= Green Public Procurement) that can push towards a more green economy and a more sustainable market.



## Esalex srl

chosed **LCA** tool because of its scientific and legal bases to perform a qualitative LCA study on sector of inhumation.



AMNU needs to integrate own procurement tenders for the funeral products industry by inserting environmental purchasing criteria

Esalex researched qualitative/quantitative criteria to characterize funerary products from an environmental point of view

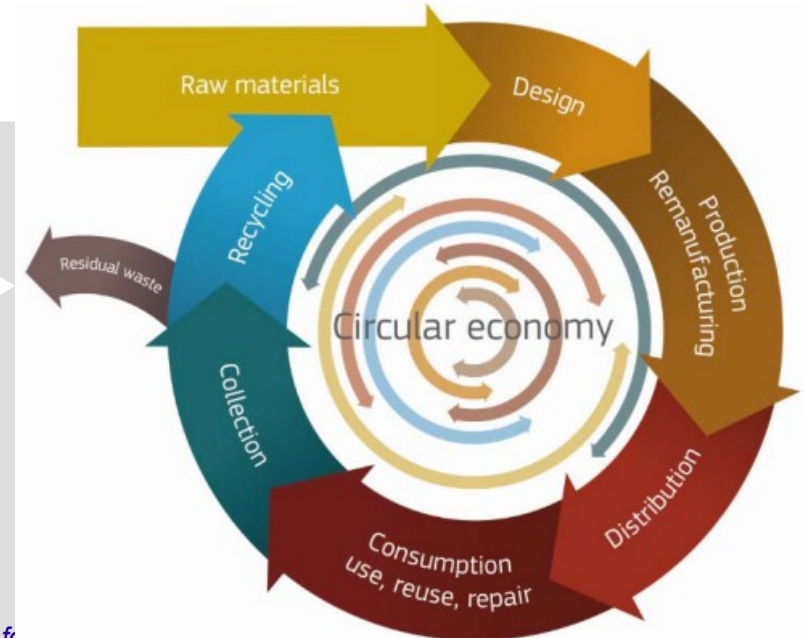
# AIM OF THE PROJECT-WORK

## 1) GPP criteria:

to determine green criteria to integrate public procurement tenders for the funeral products industry

## 2) relation with purchasers:

to plan and manage this public procurement



# MATERIALS and METHODS

We have defined internal procedure to:

1) study 3 qualitative LCA scheme;

2) focus single critical phase/product/component for each scheme;

3) define right indicators/criteria for each critical point (by market comparated study, risk described in internet, rilevance to law);

4) define a evaluation scale for each criteria, quantitative and objective based-evidence, to be used in a simple way by AMNU purchaser Manager;

5) use Carbon-Footprint for a qualitative assessment.

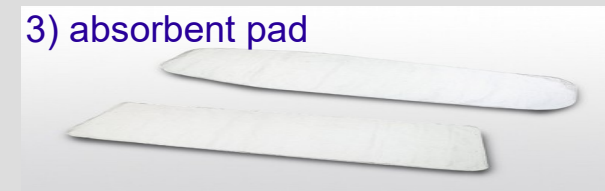
We made a bench-marking between the best and worst product into the same family product.



1) coffin



2) padding



3) absorbent pad



# RESULTS AND DISCUSSION

## N°1

The qualitative study helped to identify **9 green criteria**  
(5 applied to the first product and 4 to the other two)

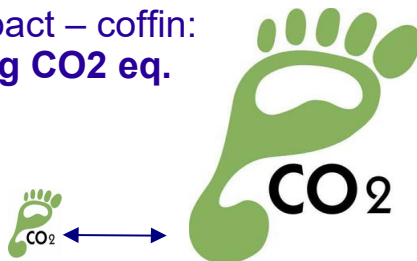


## N°2

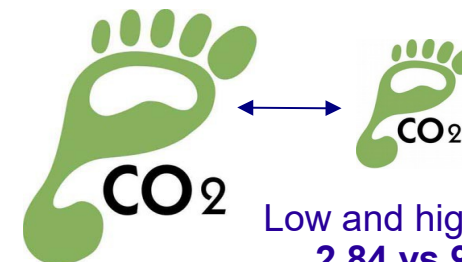
The Carbon-FootPrint assessment, based on the best and the worst performance for each criteria, shows that **it is more important to focus on coffin rather than padding or absorbent pad.**



Low and high impact – coffin:  
**0,96 vs 39,00 kg CO<sub>2</sub> eq.**



↔  
Difference:  
**10 times**



Low and high impact – padding  
**2,84 vs 9,58 kg CO<sub>2</sub> eq.**

# RESULTS AND DISCUSSION

## N°3

The **tender has been compiled with the new green requirements**, that "mean" 60% of contract notice (total value: 220.000 euros).



## N°4

The tender has been published and performed by suppliers who managed these "new" criteria.

**There was no problem in this procurement** (in term of recourse or claim).



# RESULTS AND DISCUSSION

N°5

Contrary to what is expected, there **have not been many comments or adaptations** of insights aimed at further developing products in the future.



N°6

We are wondering if it is possible to extend this approach (LCA study) to another, and more important area, such that of **cremation and its environmental impact in the neighborhood**.





*Always forward and... on running!*



**Thank you  
for your attention**

For info:

Francesco Baldoni  
Cell. +39 329.9559.590  
Tel/fax +39 0721828489  
E-mail: [info@esalex.eu](mailto:info@esalex.eu)  
Web: [www.esalex.eu](http://www.esalex.eu)