



40IADE40 INTERNATIONAL CONFERENCE 2009

SUSTAINABLE DESIGN

A Furniture Focused Approach

JOSÉ A. VICENTE | F. MOREIRA DA SILVA | RUI FRAZÃO



PhD Research

*Contributions to a Sustainable Design
Methodology Applied to the Furniture Industry:
the Portuguese Case*

CIAUD – Faculty of Architecture – TU Lisbon

FCT – Fundação para Ciência e Tecnologia



This presentation:

1.Introduction

2.Research Project

3.From Ecodesign to Sustainable Design

4.Sustainable Design Tools

5.Sector Focused Approach

6.Conclusions

INTRODUCTION



Sustainable consumption and production

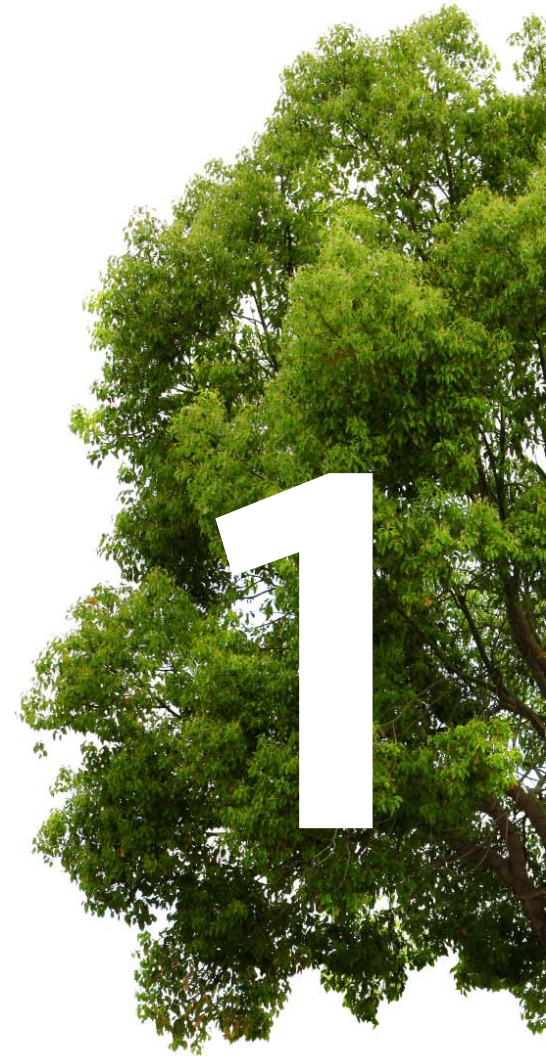
> *Environmental information – key factor*

> *All sustainability criteria*

> *Efficiency*

> *Specific strategies and tools per sector*

Ecodesign > Sustainable design



RESEARCH PROJECT

2



Sustainable consumption and production

Paradigm shift

Tools for designers - wood furniture sector

Sustainability

Design

Furniture

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Methodology

Literature review

Case studies analysis

Survey

Interviews

Model development

Test

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FROM ECODESIGN TO SUSTAINABLE DESIGN

3



Ecodesign

Environmental criteria

Life-cycle thinking

Environmental management tools

Integration of information

Information, strategies & tools

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Towards SD

Environmental criteria not enough

Ecodesign + Social considerations

Methods and tools for SD

3



Sustainable design

All aspects of sustainable development

Eco+Eco+Eq

Social progress

3



Sustainable design

Focus on social aspects

Guiding principles

SA 8000; NP4469; GRI G3 PI

3



Sustainable design

Social issues selected by companies:

Time and working hours

Stability of employment

Compensation of employees

Health, hygiene and safety

Staff training

Respect for intellectual property

Information about content use and maintenance of products

Support and involvement of local communities

Selection and evaluation of suppliers on criteria of sustainability



3

SUSTAINABLE DESIGN TOOLS



4

Design tools as key factor for SD

Design process – Where to use

Design Model = Ecodesign model = Sust.

Design model

4



Ecodesign tool

MET-Matrix

		MATERIAL CYCLE (Input/output)	ENERGY USE (Input/output)	TOXICITY EMISSIONS (output)
Production and supply of material and components				
In-house Production				
Distribution				
Use	Operation			
	Servicing			
End-of-Life System	Recovery			
	Disposal			

MET Matrix, Adapted from Brezet & Hemel, 1997



Sustainable design tool

SeeD Matrix

	ECONOMY		ENVIRONMENT		SOCIAL EQUITY	
	Cost	Benefit	Resources	Toxicity	Internal	External
Pre-Production						
Production						
Distribution						
Use						
End-of-Life System						



SECTOR FOCUSED APPROACH

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5

Sustainable results by design-complex
>*Efficiency of strategies depends on sector*

5



Wood furniture products

Design opportunities

Specific life-cycle

Pre-production

Production

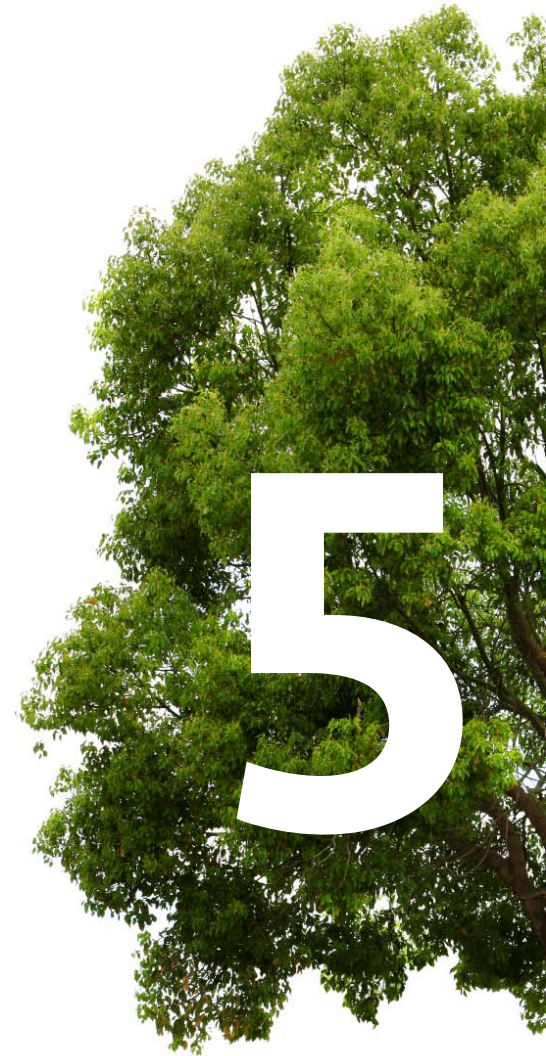
Distribution

Use

End-of-life

Sme's & Labour Intensive

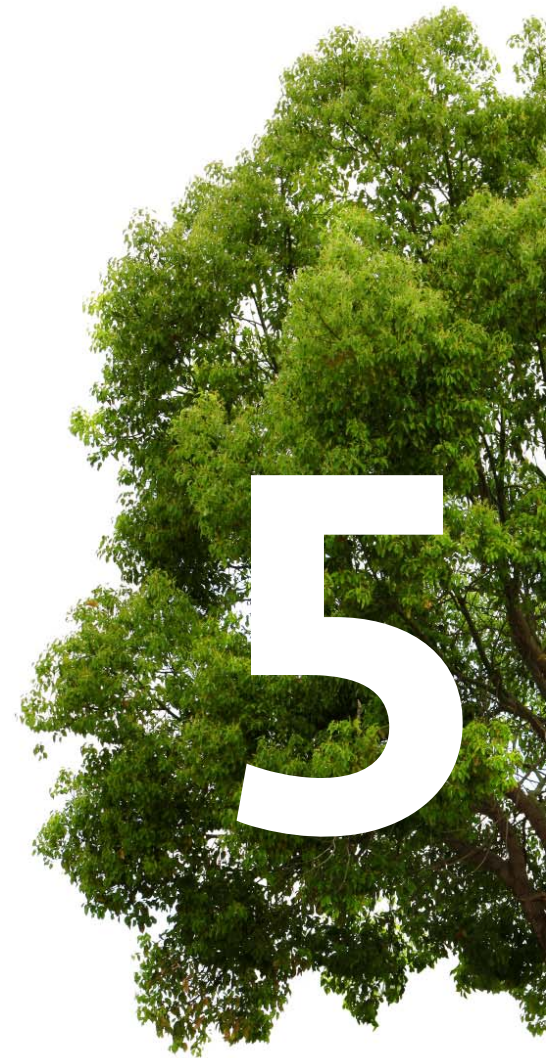
5



SD Tool for Wood Furniture Products

Matrix

		ECONOMY		ENVIRONMENT		SOCIAL EQUITY	
		Cost	Benefit	Resources	Toxicity	Internal	External
Pre-Production	Materials						
	Components						
Production							
Distribution							
End-of-Life System	Re-use						
	Disposal						



CONCLUSIONS

6



Sustainable consumption and production

Ecodesign > Sustainable design

Social progress

Social criteria integration

SDesign tool for furniture

Toolkit

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Thank You!

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Financing:

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MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

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