PROJECT: ECOLOGICAL AND INNOVATIVE TECHNOLOGIES FOR RECOVERING INDUSTRIAL AREAS FROM LCA AND ENERGY EFFICIENCY POINT OF VIEW

2020-1-RO01-KA203-080223

LIFE CYCLE ASSESSMENT

Universitatea Transilvania din Brașov
Centro Tecnológico del mármol, piedra y materiales
Universidad de Sevilla
ROMANIA GREEN BUILDING COUNCIL
Politechnika Poznańska
FPIP CALIFICAT.RO
Rybaki17
Co-funded by the Erasmus+ Programme of the European Union

Escuela Técnica Superior de Ingeniería de Edificación

Arditec

Co-funded by the Erasmus+ Programme of the European Union

Life cycle analysis of construction materials

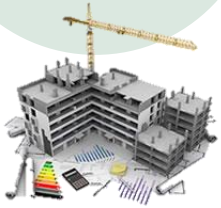
Ecological and innovative technologies for recovering industrial areas from LCA and energy efficiency point of view

2020-1-RO01-KA203-080223

Index

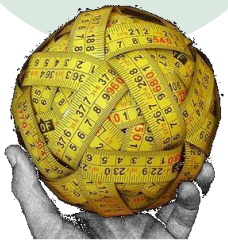
1. Introduction

DEFINE projects with Systematic Classification



+

BCCA to **MEASURE** resources



=

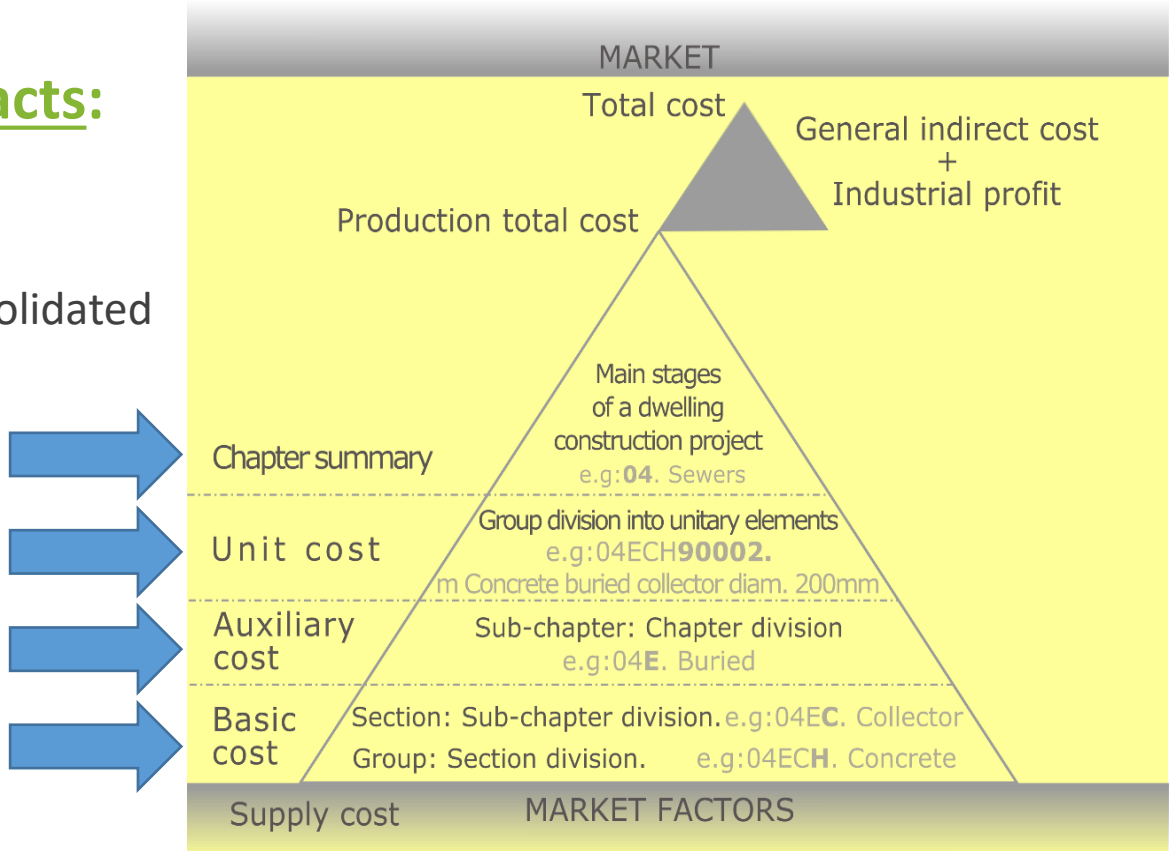
Economic and environmental budget to **IMPROVE**

Ecological and innovative technologies for recovering industrial areas
From LCA and energy efficiency point of view

1. Introduction

Environmental impacts: Quantification

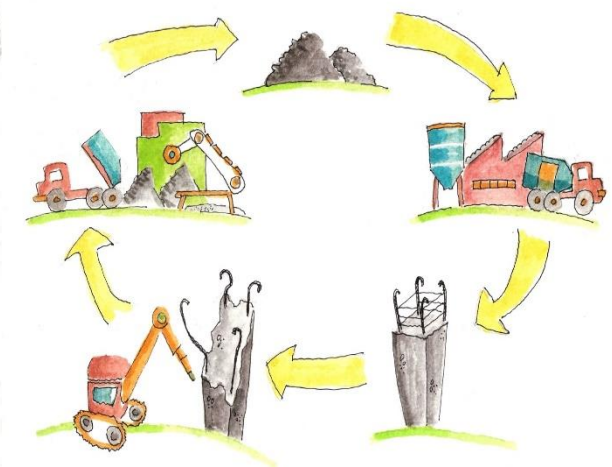
Stable and consolidated structure



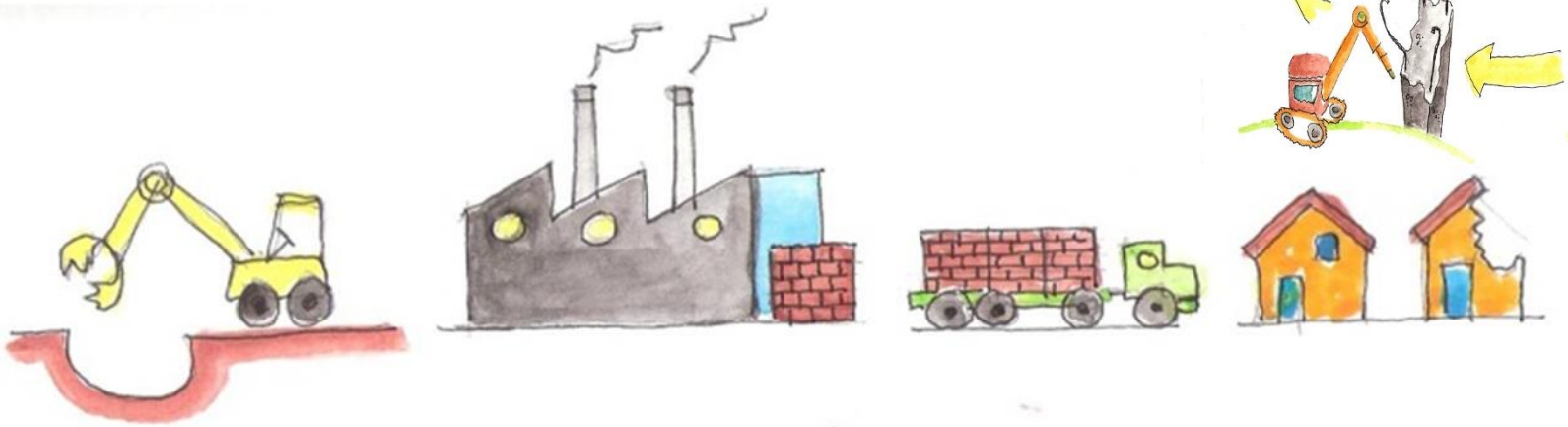
Basic levels of the cost structure (Ramírez de Arellano, 2004)

Ecological and innovative technologies for recovering industrial areas
From LCA and energy efficiency point of view

1. Introduction



Life Cycle Analysis (LCA)



From the cradle to the door

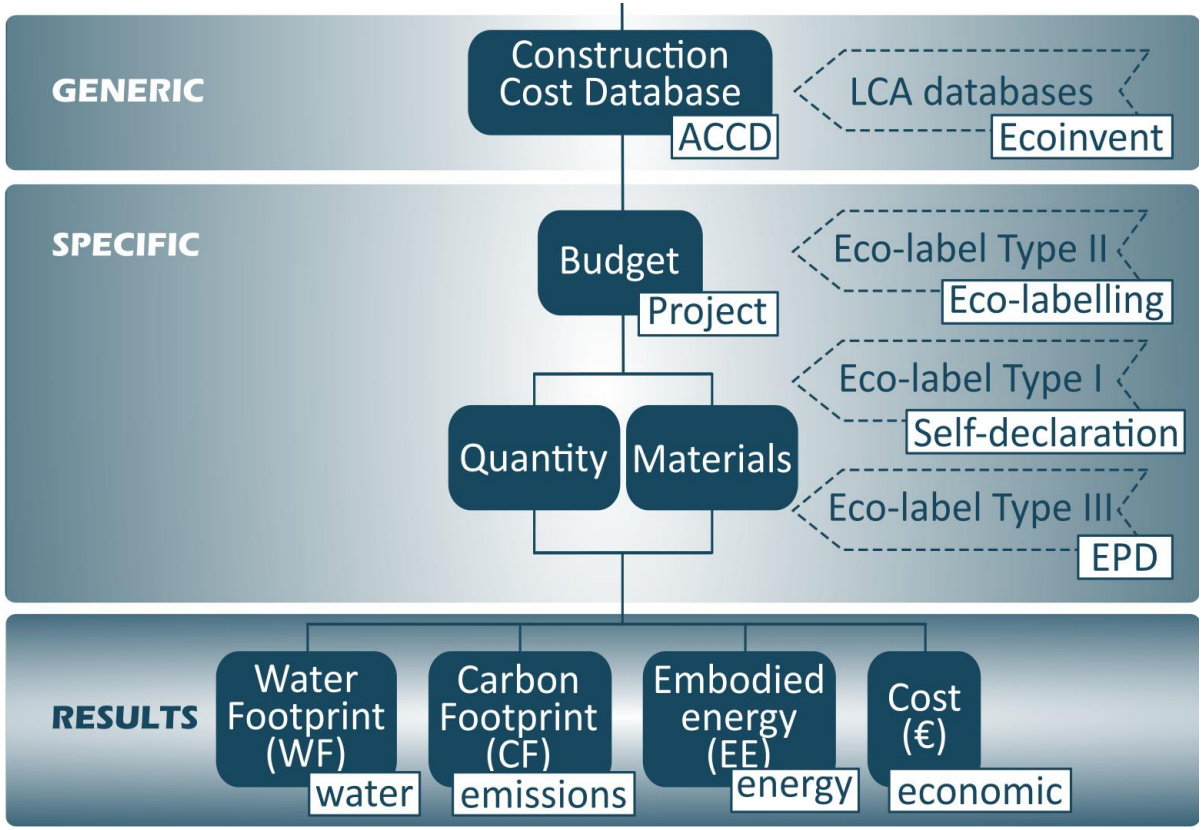
From the cradle to the site

From the cradle to the grave

Ecological and innovative technologies for recovering industrial areas
From LCA and energy efficiency point of view

1. Introduction

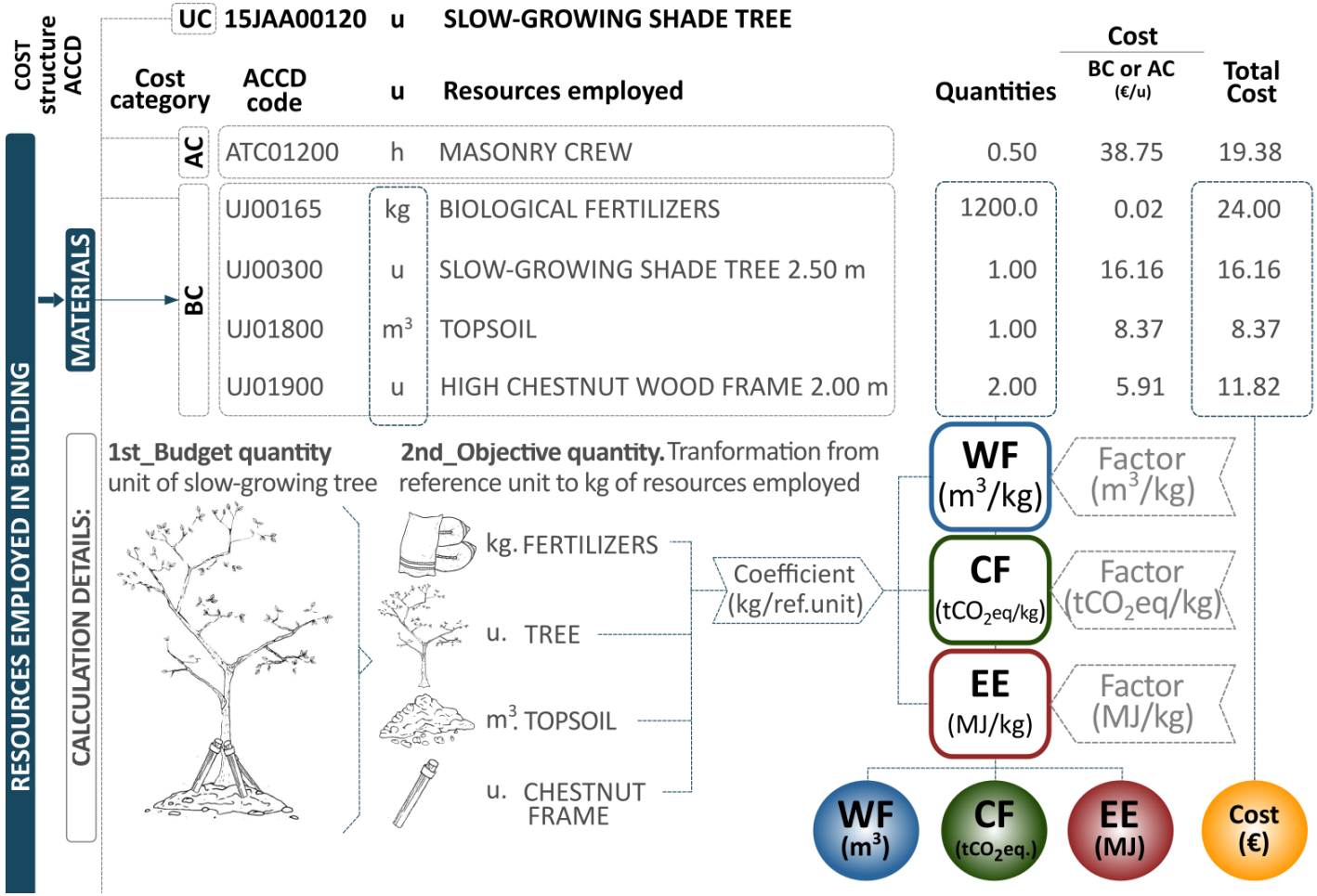
Environmental impacts: Quantification



inclusion of environmental indicators in the green assessment of construction projects

Ecological and innovative technologies for recovering industrial areas
From LCA and energy efficiency point of view

2. Methodology



3. Conclusion

Quantify the reduction in environmental impact generated by projects

- Compare the environmental impacts of new solutions with traditional building solutions.

Identification of materials that generate the greatest impact

- Thanks to the detailed breakdown by construction elements supported by the internal structure and systematic classification of cost bases.
- It allows to quantify by which alternative to replace this element by another one that generates less impact.

References

BCCA (2017) Consejería de Fomento y Vivienda / Vivienda y Rehabilitación / Base de Costes de la Construcción de Andalucía (BCCA).

Freire-Guerrero, A., Alba-Rodríguez, M. D. and Marrero, M. (2019) 'A budget for the ecological footprint of buildings is possible: A case study using the dwelling construction cost database of Andalusia', Sustainable Cities and Society. Elsevier, 51, p. 101737. doi: 10.1016/J.SCS.2019.101737.

Marrero, M. and Ramirez-De-Arellano, A. (2010) 'The building cost system in Andalusia: application to construction and demolition waste management', Construction Management and Economics. Routledge, 28(5), pp. 495–507. doi: 10.1080/01446191003735500.

Martínez-Rocamora, A. et al. (2016) 'LCA databases focused on construction materials: A review', Renewable and Sustainable Energy Reviews. Elsevier, 58, pp. 565–573. doi: 10.1016/j.rser.2015.12.243.

Co-funded by the
Erasmus+ Programme
of the European Union

ECOLOGICAL AND INNOVATIVE TECHNOLOGIES FOR RECOVERING INDUSTRIAL AREAS FROM LCA AND ENERGY EFFICIENCY POINT OF VIEW

2020-1-RO01-KA203-080223

CONTACT

www.recoverind.eu

RecoverIND

Erasmus+