Research topic: Environmental Assessment of Urban biomass from tomato plants

- Research line: Urban agriculture, life cycle assessment.
- Research group: Sostenipra (Indutrial and Urban Ecology)

CONTACT:xavier.Gabarrell@uab.cat

Supervisors:
Xavier Gabarrell i Durany (ICTA-UAB)
Jorge Sierra (UNIZAR) and Veronica Arcas (ICTA-UAB)



The results obtained by characterizing tomato stems have allowed to identify several options where this raw material can be used. The objective of this work is to analyze the environmental performance of those options:

1. For biochar
2. Pellets for combustion
3. As a new eco-material, or ecodesigned product, eg., fence and trellises“
4. As a substrate for urban agriculture
5. Compost

Main goal: LCA of tomato stem transformation processes

MAIN TASKS:

1) Collection data from previous studies done by the research group.
2) LCA of each system.
3) Comparative analysis and avoided impacts.
4) Criteria for a sustainable urban biomass management

icta Institute of Environmental Science and Technology · UAB

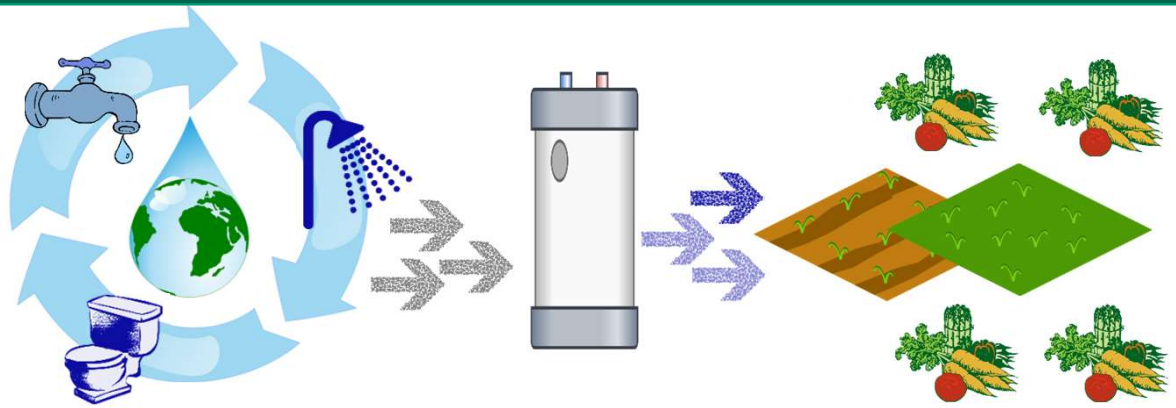
UAB Universitat Autònoma de Barcelona

Master Thesis: Environmental evaluation of technologies for the conditioning of gray water for irrigation water.

•Research line: Urban agriculture, life cycle assessment.

•Research group: Sostenipra

CONTACT:xavier.Gabarrell@uab.cat



Currently, the availability of fresh water for food production is scarce. Urban agriculture is an alternative to food production, which can use various sources of water. The use of conditioned greywater for irrigation is an alternative to supply these requirements. In this sense, there are different technologies to condition the water. The report explores the environmental impacts of conditioning gray water, considering the advantages and disadvantages that the implementation of these systems at the house level could have.

This work focuses on the establishment of 3 filtering systems or kit, for subsequent environmental analysis. The systems must be defined together at the moment of beginning to carry out the thesis.

Supervisors:
Dr. Xavier Gabarrell/ Sostenipra- UAB
MSc Felipe Parada/ Sostenipra – UAB
MSc Susana Toboso/ Sostenipra – UAB

Main aim: Determination of the environmental impact of 3 filtration systems

MAIN TASKS:

- Determine 3 water conditioning systems, depending on the level of technologies
- Determine environmental impacts of the 3 systems for a standard house or flat condition
- Make a life cycle inventory of the selected systems

- External advisors: Dra. Barbara Civit/ Centro de Estudios para el Desarrollo Sustentable - UTN FRM
- Dr. Pablo Arenas/ Centro de Estudios para el Desarrollo Sustentable - UTN FRM

Research topic: Assess the potential integration of disabled people within urban food production initiatives : Case study of lettuce production in a rooftop greenhouse system employing people with mental disability

- Research line: LSCA, social impact, Urban Food Production
- Research group: Sostenipra (Industrial Ecology)

CONTACT: Pietro.Tonini@uab.cat



Master's in Interdisciplinary Studies in Environmental, Economic and Social Sustainability

Supervisors:
Pietro Tonini
Susana Toboso
Dr. Joan Rieradevall (Joan.Rieradevall@uab.cat)
Dr Xavier Gabarrell

Main aim: LCSA analysis of different production system such as minimum cost, minimum environmental impact and focus on social impact. The analysis aimed to find the difference on cost and environmental impact of these three-system deepening the potential role of urban food production on the integration policy within the metropolitan area of Barcelona.

-Collect the data for Life Sustainable Cycle Assessment in thre area: Almeria (economic), Organic production in Barcelona and the rooftop system in the Institut de personas con discapacitat de Barcelona.

-Assessment of the three scenario and compare it using economic variable (i.e. unit cost, marginal profit) and using assessing other normalization method;

-Quantify the social impact generated in economical and society term of this initiative promoted by this institute in order to promote it in other Mediterranean cities;

This research will be conducted **in collaboration with IMPD the Institut Municipal de Persones Discapacitades de Barcelona**

icta Institute of Environmental Science and Technology · UAB

UAB Universitat Autònoma de Barcelona

sostenipra Sostenibilitat i Prevenció Ambiental