

LIFE14 ENV/IT/000443



LIFETAN & LIFE projects



16th Week of Scientific and Technological Culture



ENEA SSPT-PROMAS-TEMAF
Laboratory of materials technologies of Faenza

Alice Dall'Ara
Federica Bezzi
Alessandra Strafella

24th March 2016

**ENEA premises
Faenza, RA (It)**



LIFE Projects



Use of poultry dejection for the bating phase in the tanning cycle

[1/1/2012 → 30/6/2014]

Project

PODEBA

LIFE10 ENV/IT/000365

Project objectives

Demonstrating the use of an innovative material, a recycled waste (poultry dejection) for the bating phase in the leather tanning process, for the production of new or existing leather products with a significantly higher eco-sustainability profile.

Key indicators

- Application of a innovative deodorisation technique for the poultry dejection
- Reuse of animal by-products: use of the poultry dejection in the bating phase in the tanning cycle
- Environmental impact of the bating phase
- Odour impact
- Water consumption
- Costs of the bating phase by using a waste instead of industrial commercial products
- Energy saving

Project expected results

- ➔ 80% reduction of odour impact
- ➔ 50% reduction of water consume and 20% reduction of pollutant load
- ➔ 40% reduction of energy consume
- ➔ 80% reduction of waste disposal
- ➔ Product quality increasing
- ➔ Social impact (waste recycling in a marketable product)



www.podeba.eu

Contacts & info alice.dallara@enea.it Laboratori Ricerca Faenza

ENEA Tecnologie dei materiali (UTTMATF)
Via Ravennana 186 - 48018 Faenza (IT)

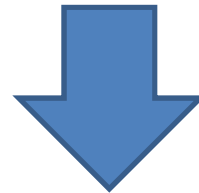


Objectives



What to consider:

- **Environmental indicators**
- **Use of resources**
- **Sustainability (also economic)**



**Substitution of toxic products
or products from non-
renewable sources**



Expected results



- 1. Reduction of olfactory impact (80%)**
- 2. Reduction of water consumption (50%) and polluting load (20%)**
- 3. Reduction of energy consumption (40%)**
- 4. Reduction of waste disposal (80%)**
- 5. Increase of quality of finished product**
- 6. Sustainable social impact (commercial products obtained with by-products)**



LIFETAN

Eco friendly tanning cycle



PROJECT ACRONYM: «LIFETAN»

PROJECT LOCATION:

**Faenza (RA) ITA, Santa Croce s/a Arno, Pisa, ITA
& Elda (ESP)**

BUDGET INFO:

Total amount: 975,506.00
% EC Co-funding: 56.88

DURATION:

Start: 01/10/15 - End: 30/09/17

PROJECT'S IMPLEMENTORS:

Coordinating Beneficiary: ENEA

**Associated Beneficiaries: CNR-ICCOM,
INESCOP, NEWPORT, TRADELDA**





LIFETAN

Eco friendly tanning cycle



LIFETAN aims at demonstrating the use of innovative natural products and technologies for the bating, defatting, fatting, dyeing and tanning phases.



It is an integration of successful results obtained with previous LIFE projects:

- BIONAD,
- ECODEFATTING
- PODEBA
- ECOFATTING
- OXATAN



The main environmental, social and economical goal of LIFETAN project:

- to replace current commercial chemical and toxic products with natural products in the whole tanning cycle
- to establish a significantly eco-sustainable and convenient business for companies
- to produce high quality leather products, traditional or new, perfectly workable



LIFETAN

Eco friendly tanning cycle



Use of poultry dejection in the BATING PHASE in the tanning cycle

Hides & skins

BEAM-HOUSE	SOAKING
	LIMING
	FLESHING
	DELIMING
	BATING
	DEGREASING
	PICKEL
TANNING	CHROME
	VEGETABLE
	OTHER
RETANNING	SAMMING
	SPLITING
	SHAWING
	RETANNING
	FATLIQUORING
	DYEING
DRYING	SETTING-OUT
	VACUUM
	HOT CILINDER
	FRAME
	HANG-UP
	CONDITIONING
EMBOSSING	
FINISHING	



Leathers



LIFETAN

Eco friendly tanning cycle



EXPECTED IMPACTS

Water:

- ✓ pollutants (COD, TKN -33%, Cr3+ -100%)
- ✓ consume (- 20%)

Waste:

- ✓ with Chrome -100%

Chemicals:

- ✓ Cr compounds < 20-100%
- ✓ substitution with natural products 60%

GHG: < 20%

Green circular economy practice: 1

Operating costs: - 15%

Jobs: labour force maintenance in Europe for tanning sector + 100 employees for natural products manufacturing



LIFETAN

Eco friendly tanning cycle



Reference strategy policy

- **“Circular Economy” COM(2014) 398 final**
- **Environmental Technologies Action Plan (ETAP)**
- **Directive 2008/98/EC on “Waste”**
- **Directive 91/676/EC & s.m. “Nitrate”**
- **European eco-label**
- **Directive 2002/231/EC guidelines for “not harmful” classification**
- **REACH**
- **Contribution to *BAT - Directive 96/64/EC regarding IPPC *environmental performance of products (PILOT LEATHER)**



CIRCULAR ECONOMY

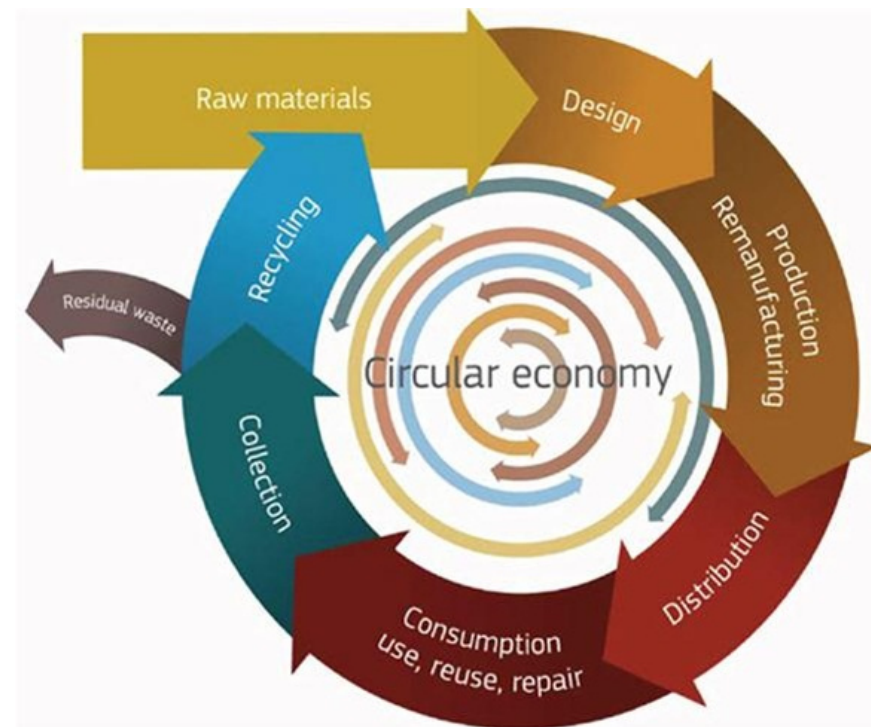


COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

COM(2014) 398 final

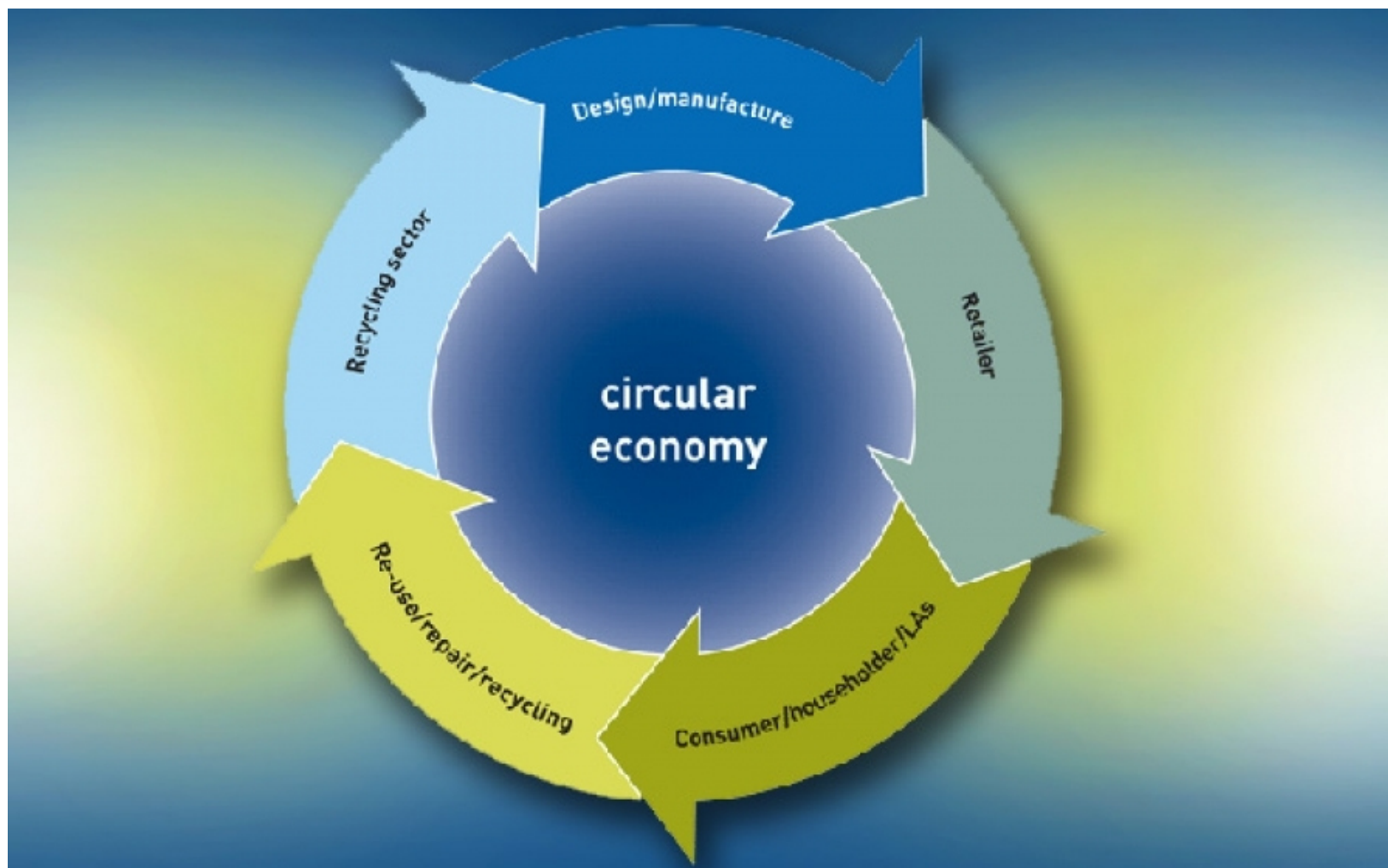
Towards a circular economy: A zero waste programme for Europe

What is circular economy?



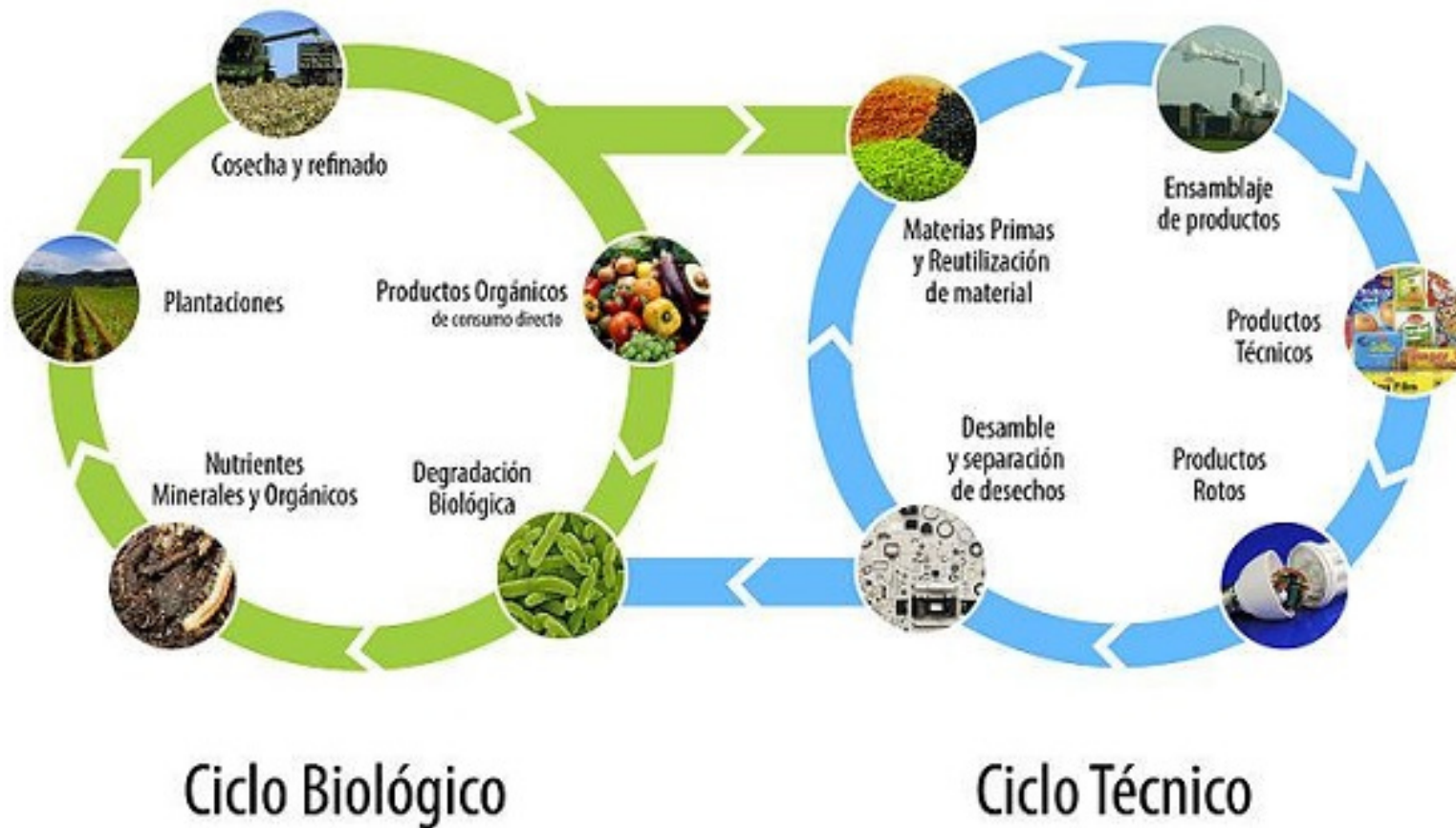


CIRCULAR ECONOMY





CIRCULAR ECONOMY





LIFETAN

Eco friendly tanning cycle



Thank you for your attention!

alice.dallara@enea.it

www.podeba.eu



www.lifetan.eu



LIFETAN
Eco friendly tanning cycle