Circular economy: from harmful agRifoOd waSte and secondary Streams to novel products and Energy for the agriculture futuRe - CROSSER

Call ID

Submitted June 17, 2019

CROSSER aims at creating a simple and replicable environmental impact reduction scheme by resorting to bio-refining principles applied to liquid (winery waste waters, and olive waste waters) and solid (vineyard pruning) or semi-solid (lees/vinasses) streams.

Project objectives

Winery

- Reduction of shoot spreading
- Increase of secondary value of shoots
  - Production of stilbene-based products (vineyard management, cosmeceutical and pharmaceutical use)
  - Production of biopolymers
  - Production of energy (biogas)
  - Recovery of fertilisers
  - Production of know-how

Olive milling

- Reduction of olive mill wastewater spreading
- Increase of secondary value of olive mill wastewater
  - Production of hydroxytyrosol-based products (pharmaceutical and cosmeceutical use, possible phytosanitary use)
  - Production of biopolymers
  - Production of energy (biogas)
  - Production of know-how

WHO and WHAT

Project partnership

Project areas	Partner name	Partner role
Project management and primary sector requirements coordination	Veneto Agricoltura	**Lead partner** and primary sector key actor
Economic operators covering the viticulture and winery, olive milling, phytopharmaceuticals and cosmeceuticals areas, representing the economic driver of the whole project.	Azienda Agricola Cecchetto Giorgio	Stakeholder, byproduct supplier and field-test hosting operator (winery)
	Olearia del Garda So.A. (contacted)	Stakeholder, byproduct supplier and field-test hosting operator (olive milling and oil production)
	Zapi SpA (contacted)	Stakeholder, extracts acceptor for new products formulation (phytopharmaceuticals production)
	Italian Beauty SpA (contacted)	Stakeholder, extracts acceptor for new products formulation (cosmeceuticals production)

Project areas	Partner name	Partner role
European primary sector requirements and results transferability across Europe	Veneto Agricoltura	
Technology transfer to the demonstration stage	DEPARTMENT @CaFoscari	Anaerobic digestion, bioplastic obtainment
	DEPARTMENT @UNIVR	Anaerobic digestion, treatment of winery wastes
	DAFNAE/TESAF/CIRVE @UniPD	Viticulture and winery management and byproduct valorisation techniques, logistics and economics
	DICMA @Sapienza U.R.	Membrane and switchable solvent and deep eutectic solvent ("green solvent")-based remediation, and biorefining technology
Process scale-up, plant design and construction	Bio-P/Maire-Tecnimont engineering group	Process scale-up plant design and construction in bio-based domains
Dissemination	Veneto Agricultura	

Project implementation actions

- Action1: Planning and preparation of the project: the aim is performing all necessary planning and technical preparation for the following implementation actions.
- Action 2: Design and construction of the prototype: the main objective is to scale-up individual unit operations, integrate the process design with ancillary operations, design and build the prototype.

Project implementation actions

- Action 3: Upstream treatment of pruned vine shoots to reduce pollution, to produce a resveratrol-rich concentrate to be used for phytosanitary products and cosmetic products formulation.
  - 3.1 Upstream treatment of winery wastewaters and lees to reduce pollution, produce VFA for bioplastics and biogas.
  - 3.2 Upstream treatment of olive mill wastewaters to reduce pollution, produce VFA for bioplastics, biogas, irrigation-quality water, and a polyphenols-rich concentrate to be used for phytosanitary products and cosmetic products formulation.

Project implementation actions

- Action 4: Validation tests whose main objective is products testing at laboratory and pilot scale to assess exploitation in the field of agriculture, bioplastics and cosmetics (involves research units and end-user).
  - 4.1 Technical Monitoring and Evaluation of prototype unit: the main objective is to monitor and evaluate the performance of process, material, and final product

Project implementation actions

- Action 5: Techno-economic feasibility assessment, environmental assessment and Replicability and Transferability analysis: the main objective is to demonstrate that through the developed overall technological path, the main project objectives can be achieved in a sustainable way, also from an environmental point of view.
  - 5.1 Socio-economic impact study: the main objective is to monitor and evaluate the benefits of the project from a social and economic point of view.
- Action 6: Dissemination & Exploitation planning and execution: the main objective is to disseminate the progress of the project and its results to the identified target groups/end-users in EU.

Project implementation actions

- Action 7: General Project Management: the main objective is to perform a structured project management to secure high quality in the project implementation, results and dissemination.
  - 7.1 Assessment and monitoring of results indicators: the main objective is to set main results indicators and then highlight possible differences with the expected targets.
  - 7.2 Audit: the main objective is to certify project expenditures in occasion of presentation of the final report with the final payment request
  - 7.3 After-LIFE Plan: the main objective is to produce an After Life Plan as a separate chapter of the final report

HOW and WHEN

Budget

Total cost: 2.76 M€

EU contribution: 54%

Budget breakdown cost categories

	Total cost in €	Eligible cost in €	% of total eligible costs
1. Personnel	1200000	1200000	43.48%
2. Travel and subsistence	100000	100000	3.62%
3. External assistance	200000	200000	7.25%
4. Durable goods			
Infrastructure	120000	120000	4.35%
Equipment	180000	180000	6.52%
Prototype	300000	300000	10.87%
6. Consumables	300000	300000	10.87%
7. Other costs	200000	200000	7.25%
8. Overheads	160000	160000	5.79%
Total	**2,760,000**	**2,760,000**	**100%**

Contribution breakdown

	In €	% of total	% of total eligible costs
EU contribution requested	1490400	54.00%	54.00%
Coordinating Beneficiary's contribution	140000	5.07%	
Associated Beneficiaries' contribution	1129600	40.92%	
Co-financers contribution	0	0.00%	
Total	**2,760,000**	**100.00%**	

Save

Project proposal time span

3 years, from October 1, 2020 to September 310th, 2023

Open issues

- End-users:
  - Winery: Cecchetto va confermato, ma sarebbe auspicabile un partner più robusto (posso contattare il gruppo Moretti-Polegato)
  - Frantoio: Olearia del Garda S.p.A., contatti preliminari
  - Prodotti fitosanitari: Zapi Garden si è dichiarata interessata in linea di generale
  - Prodotti cosmetici: Italiano Beauty S.p.A., contatti iniziali
- Collocazione e gestione impianti
  - Impianti già presenti non andrebbero possibilmente duplicati ed andrebbero eserciti al minimo costo, stante la modesta contribuzione