

Project acronym: LIFE ZSW

Demonstration of an innovative, environmentally friendly and economically feasible technology for the recycling and valorization of ornamental stone waste

PROJECT LOCATION: Italy & Spain

DURATION: Start: 01/07/2023 - End: 31/12/2026

PROJECT'S IMPLEMENTORS:

Coordinating Beneficiary: TEKSPED srl

Associated Beneficiaries:

Alfamarni srl, ISIM, Marini Marmi srl & Algueña Stone sl

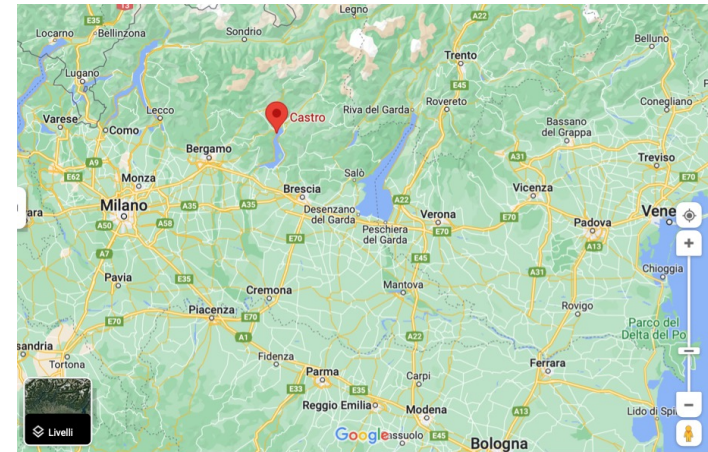
PROJECT LOCATION: Italy & Spain



ALFAMARMI
NAPOLI province
DEMO SITE #1

MARINI MARM
BERGAMO province
DEMO SITE #2

Algueña Stone
ALICANTE province
DEMO SITE #3



GENERAL OBJECTIVES

DEMONSTRATE A SMART SOLUTION FOR

Recycle STONE WASTES of different origins (marble, granite, basalt, etc.) produced into quarries & processing industries

AND

**Saving costs for landfilling and transportation
Avoiding land loss & reduce environmental impacts
Transforming WASTES into valuable end-materials**



**TURN COSTS INTO PROFITS
WASTES INTO END-PRODUCTS**

SPECIFIC OBJECTIVES

LIFE ZSW smart solution (**ECOGE plant**) for SMEs (affordable costs)

Activities will carry form prototype **to TRL8** (fine tuning and trials)

Certifications and production costs calculation for:

- MPS (CAM in Italy): eco-filler and eco-aggregates
- END PRODUCTS (premixed) chemical-physical, performances, CE, etc.

Calculation of the reduction of the Environmental footprint for each demo site

Business plan for future exploitation (newCo)

Replication activities

Dissemination and communication activities

MAIN ACTIVITIES AND SCOPE

STONE WASTES : wet (sludges) or dry (powders or scraps)

1) RECYCLING (ECOGE PLANT)



Into MPS (Secondary Raw Material): fine and coarse materials

2) MIXING MPS with other components



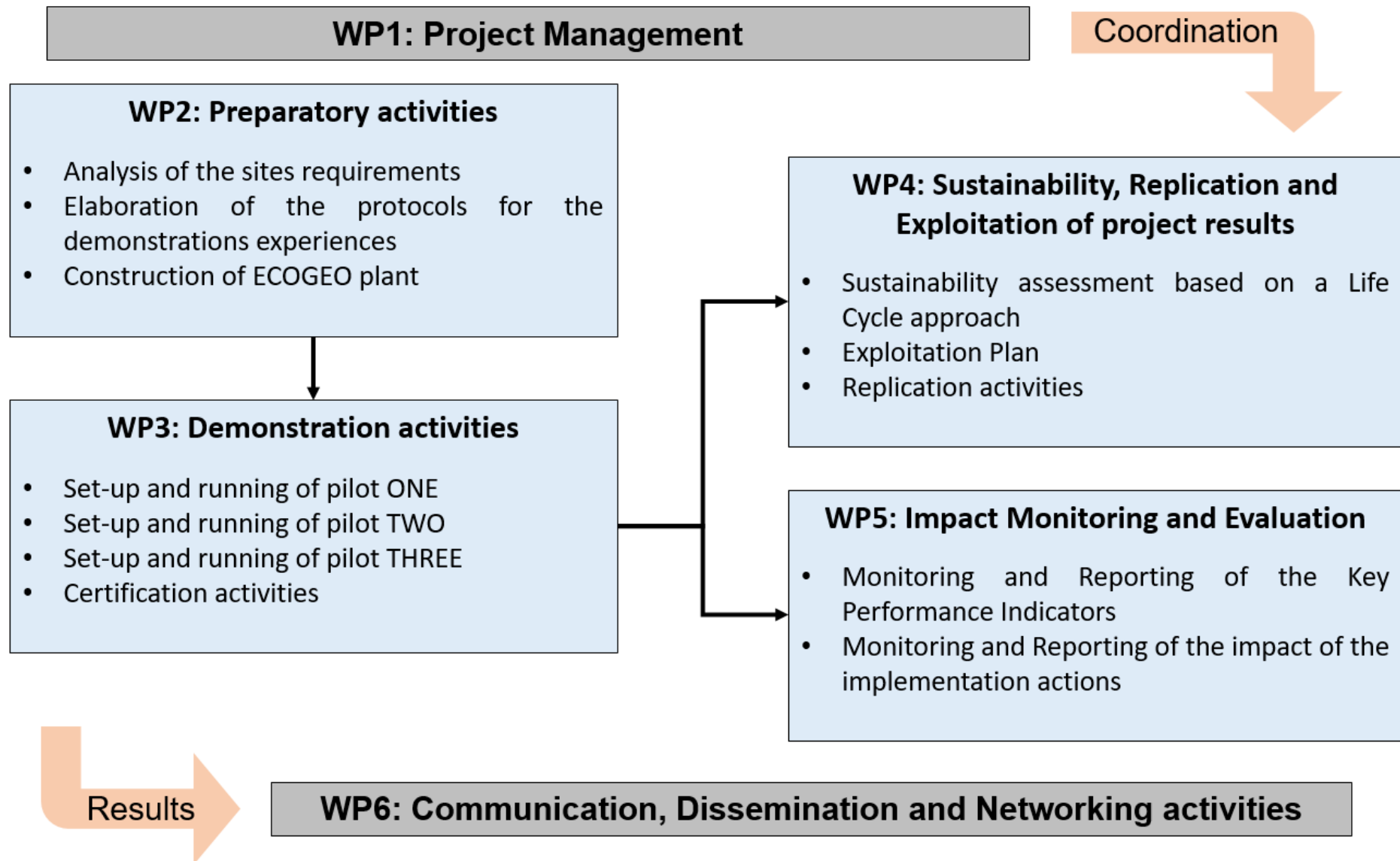
END-PRODUCTS (pre-mixed wet or dry) for the construction industry

3) CERTIFICATIONS and PERFORMANCES

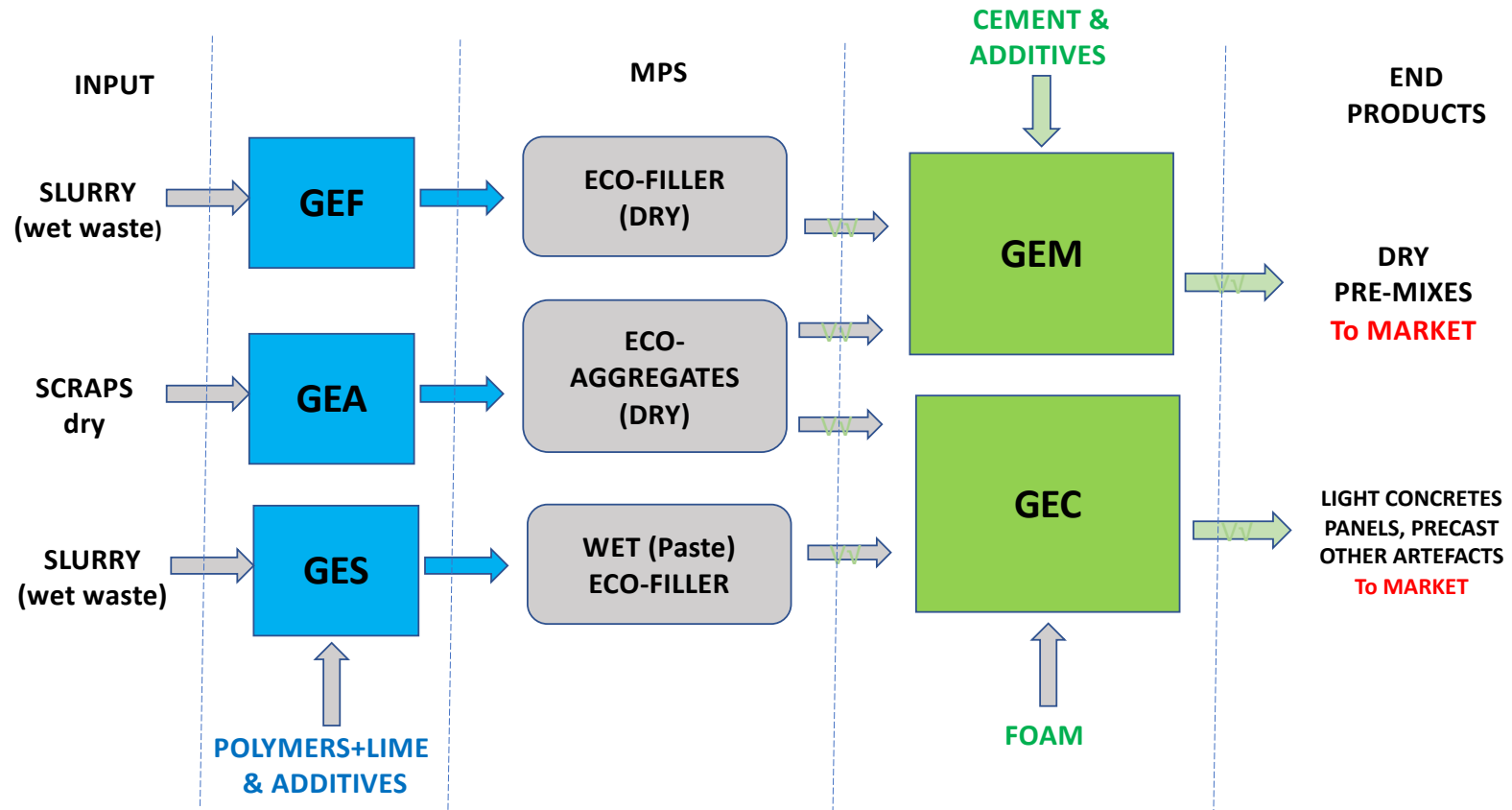


MPS and END-PRODUCTS for green procurement and bio-architecture (CAM in Italy)

WORKPROGRAM



ECOGEO PLANT & PROCESSES



ECOGEO: complete plant scheme

RECYCLED MPS



HORIZONTAL ACTIVITIES

WP4 encompasses :

- Sustainability Assessment (LCA, LCC, sLCA) made by experts and comparison with "traditional" practices
- Replicability: Set-up of new production sites, involvement of relevant stakeholders in Europe and Overseas.
- Exploitation of project results -> BP for setting up a NewCo.

WP5:

- Monitors and evaluate KPIs of the project
- Monitor and reports of some indicators related to products and production (energy consumption, productivity, cost calculation, etc.

WP6: communication and dissemination:

- Website
- Events and conferences
- Exhibitions
- News, etc.

EXPECTED RESULTS



Technological

- Demonstration of the performances (production of end-products) of ECOGEO plants.
- INTRODUCTION OF CIRCULAR ECONOMY PRACTICES INTO THE STONE INDUSTRY



Environmental

- **Reduction by 100% of the stone waste accumulated.**
- **Recycle** of all types of stone waste in “green” end-products – NO land lost or pollution for disposal



Socio– economic

- Reuse of wastes in **agriculture and constructions**
- Saving money for avoiding transport and landfilling

EXPECTED IMPACTS

ENVIRONMENTAL

- 1a) 10,680 tonnes of waste recycled during the project,
- 1b) 520,960 tonnes within the 5 years after the project ends.

- 2) Reduction of CO₂ emissions by avoiding transportation of wastes to disposal: > 28 tons during the project, around 1.400 tons after the project end

- 3) Reduction of CO₂ emissions by lowering the % of cement into the end-products (the pre-mix) - > to be tested and calculated during the project

ECONOMICAL

Sale of CERTIFIED end-products to be calculated during the project.
An approx. give a potential turnover among 0,4 and 0,5 M€ for year/plant, including saves.

CONTINUATION – AFTER LIFE

REPLICATION

- 1) **29 new plants** operating within 5 years
- 2) **520,960 ton of waste** recycled within the 5 years after the project ends.
- 3) Reduction of CO2 emissions by avoiding transportation of wastes to disposal: around 1.400 tons within the 5 years after the project end

MARKET UPTAKE - NewCo set up

Two alternative Business models:

- selling and maintaining new ECOGE plants
- or
- operating the plants and marketing the end-products.

POLICY IMPLICATIONS

EU Green Deal: (COM/2019/640 final): contribute to decarbonization

Waste Framework Directive and Commission Decision 2019/1004:
wastes valorisation and no land lost for disposal

EU Circular Economy action plan:

- Improve the circularity of the processes (stone and construction domains)
- Strengthen circularity and eco-sustainability into products

In Italy, the Degree 50/2016 introduced “Criteri Ambientali Minimi” (CAM),, for the acquisition of goods and services by the Public Administration (Green Procurement).

Same **In Spain,** with the Real Decree 6/2018

The ZSW End-Products meet all the requirements for green procurement