



Closing the loop—from sea to soil.

Problem

Up to 30 million tons of Posidonia biomass wash ashore along Mediterranean.



80% ends in landfills producing methane, violating waste directives.

Excessive Chemical fertilizers use:
70–80% of soil degradation
60–65% of crop health/nutrition problems

Global Warming:
14% to 20% decrease in rainfall by 2050.
Up to 33% of water loss by 2071.

Waste Removal costs for Municipalities: 100€–300€ per ton of organic waste!



Solution in Agriculture

Greek Patent - Endless Growth

Port & Coast Cleaning / Recycling Services.



Each 1,000 tons of Posidonia we recycle:

- Prevent 2,500 tons of CO₂e.
- Produce 600 tons of compost.
- Restore up to 300 hectares of degraded farmland.



Organic Ecofriendly Compost Fertilizers & bio-Soils.

- ✓ Plant Protection – (Natural Aminoacids)
- ✓ Decrease up to 60% of water waste
- ✓ 100% PEAT free
- ✓ 100% CHEMICAL free
- ✓ 100% HEAVY METAL Free

Solution in Energy



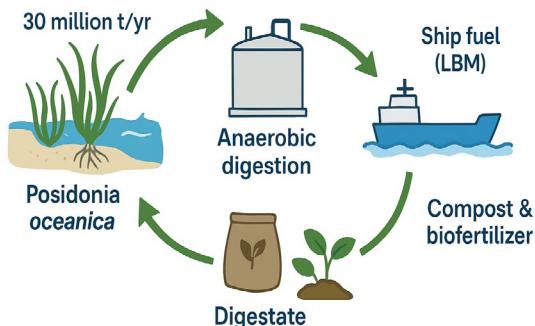
- Convert stranded **Posidonia** wrack into biomethane via **anaerobic digestion**

- Establish decentralized coastal **biomethane** plants

- Produce renewable **biomethane** for grid, transport fuel, and electricity

Posidonia Biogas & Biomethane

From waste to resource: powering future's circular blue economy!



ASSEA

Biodegradable waste

Composting & Sustainability



Aerobic thermophilic
fermentation



Low-cost
Production
Method



Production of innovative
100% ecofriendly
compost & soil
improvers



Posidonia marine
plant wastes



Winemaking
stems



Olive leaves,
olive pits, twigs



Organic waste &
RC Soil



Potential Biogas / Biomethane Production



- Greece has ~5,500 km of coastline suitable for Posidonia collection



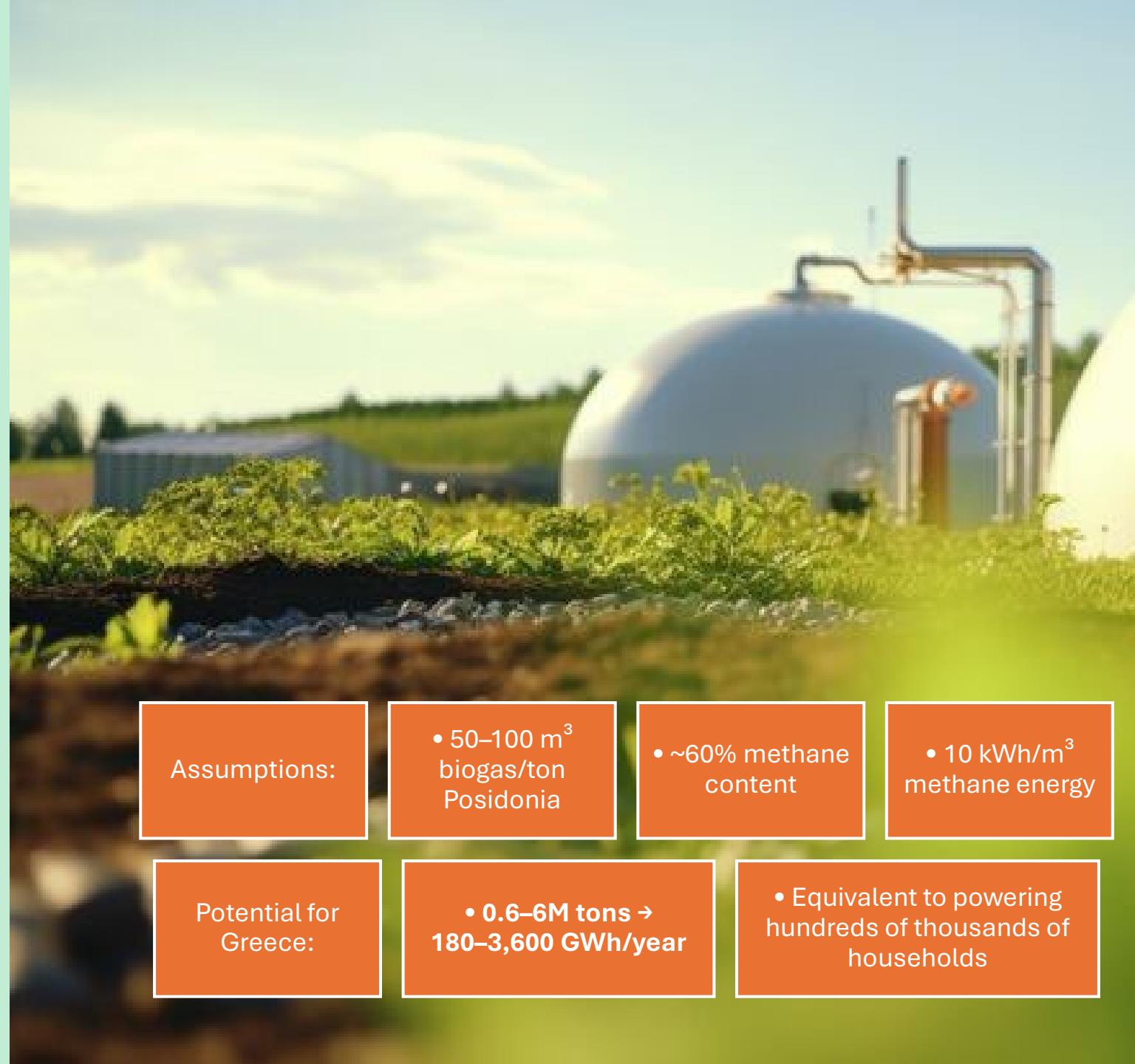
- Estimated 0.6–6 million tons of stranded Posidonia annually



- Untapped biomass resource for renewable energy production



- Potential to align with EU Green Deal and energy transition targets



Assumptions:

- 50–100 m³ biogas/ton Posidonia

- ~60% methane content

- 10 kWh/m³ methane energy

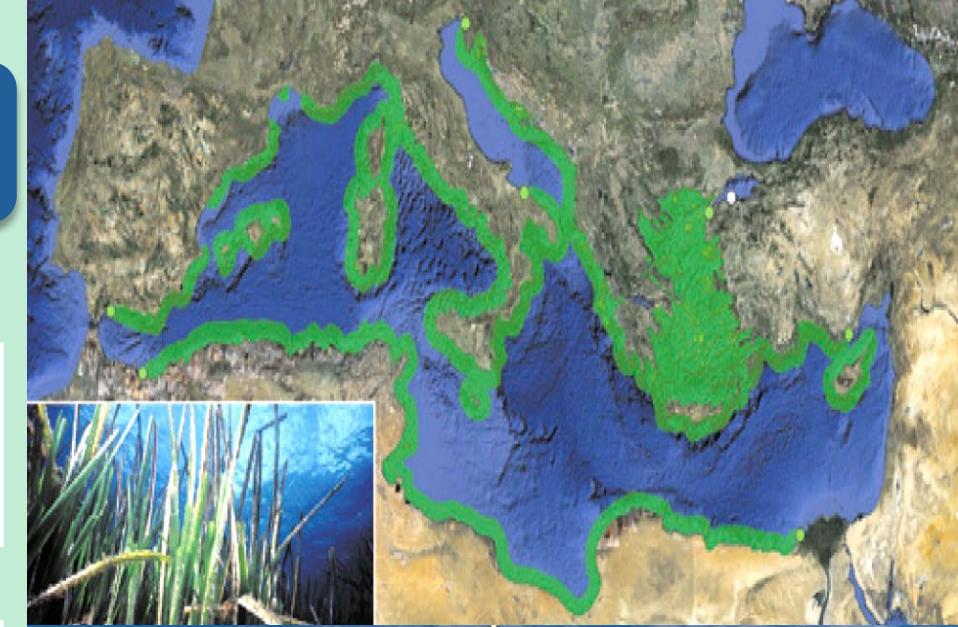
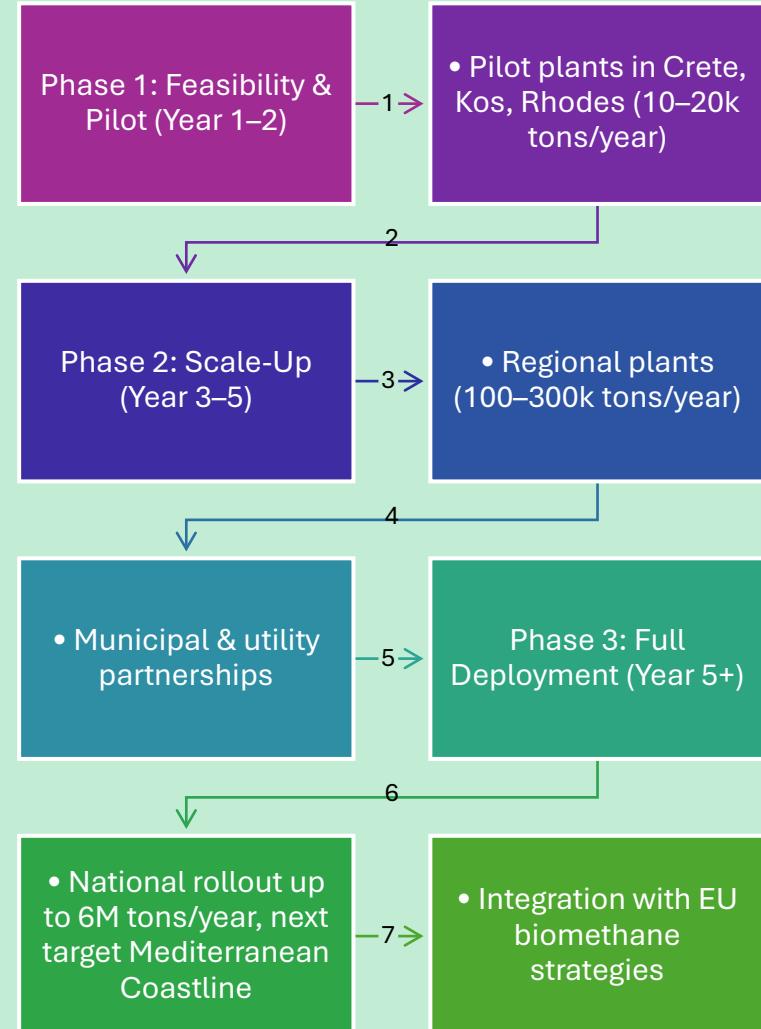
Potential for Greece:

- 0.6–6M tons → 180–3,600 GWh/year

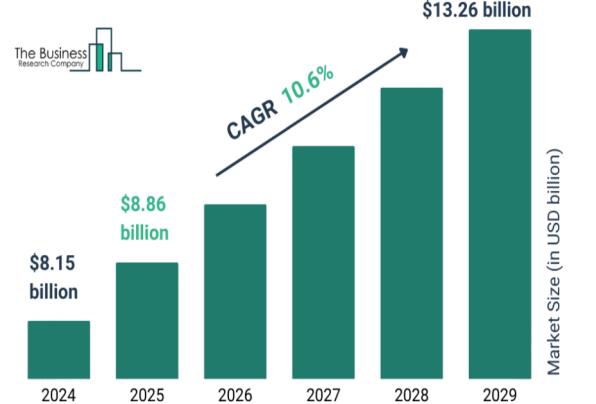
- Equivalent to powering hundreds of thousands of households



Biogas/ Biomethane Production Plan



Compost Global Market Report 2025



Biomethane Producers/Competitors

- **Anaergia** large global AD/biomethane developer; recent contracts for multi-plant biomethane projects in Europe.
- **Air Liquide** (Biogas/ Biomethane) operates many biomethane units worldwide and expanding.
- **ENGIE** (and other large utilities / oil & gas groups) actively acquiring/operating biogas/biomethane sites in Europe to scale renewable gas supply.
- **Cepsa** (with waste partners, PreZero etc.) large energy company pivoting into biomethane via partnerships to convert organic waste to RNG.

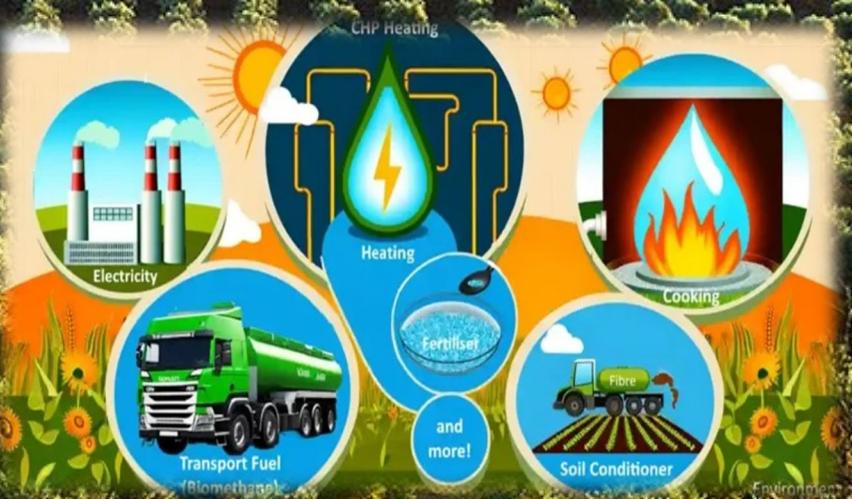
Market & Competition

Comparison Factors	ASSEA BIOENERGY	Haifa Chemicals	Compost Hellas	Growmoor	SK AGRO SOLUTIONS M IKE
Price.	4,60 € /10 kg 200 € / Big bag	40 € /10 kg	260 € / Bigbag	10 € / 60 Lt excl.VAT	19 € / 25 kg
Markets.	Greece	Australia, America, Europe, China, Asia, Africa & Middle East	Greece	Ireland	Greece
Attractive Packaging.	✓	✗	✗	✓	✗
Soil conditioning.	✓	✓	✓	✓	✓
Organic product.	✓	✗	✓	✓	✓
Contains Posidonia Oceanica.	✓	✗	✓	✗	✗
Ecofriendly.	✓	✗	✗	✗	✗
Bio certified.	✓	✗	✗	✓	✗
Plant protection .	✓	✗	✓	✗	✗

Costumers & Targets

- Kos Municipal Port Authority
- Regional Nursery of Rhodes
- Ntimar waste Recycling
- Atlantica Beach Hotel
- Atlantica Belvedere Hotel
- Marmari Beach & Palace Hotel
- Supermarket **KΡΗΤΙΚΟΣ**
- Koia Resort Hotel
- Ikos Resort Hotel
- Winery Χατζηεμμανουήλ
- KTIMA AKRANI (Winery Τριανταφυλλοπούλου)
- Kos Olive oil factory (Παπαδημητρίου)
- Openfarm Olive Oils Χατζηπέτρου
- Kos Locally Grown

- Nurseries
- Stores
- Housekeepers
- Farmers
- Gardeners
- Hotels
- Municipalities
- Public Services
- Energy Suppliers
- Gas & fuel suppliers



Economic Potential

At €0.10–0.15/kWh biomethane market value:

- 600,000 tons wrack (low) → **€18–54M annual revenue**

- 6,000,000 tons wrack (high) → **€180–540M annual revenue**

- Significant savings in waste management costs

- New business and job opportunities in coastal regions

At €120 retail price (Bulk Compost) market value:

- Low-scale production of 5,000 tons/year, **\$1.2 million annual revenue profit margins 25–35%.**

- Large-scale production of 20,000 tons /year, **\$4.8 million annual revenue profit margins 25–35%.**

- Carbon credits from waste recycling and emission reduction

- Eligible for green funding & CSR partnerships



Values & Impact



- Waste diverted: up to 6M tons/year



- Revenue: up to €540M/year



- Renewable energy: up to 3,600 GWh/year



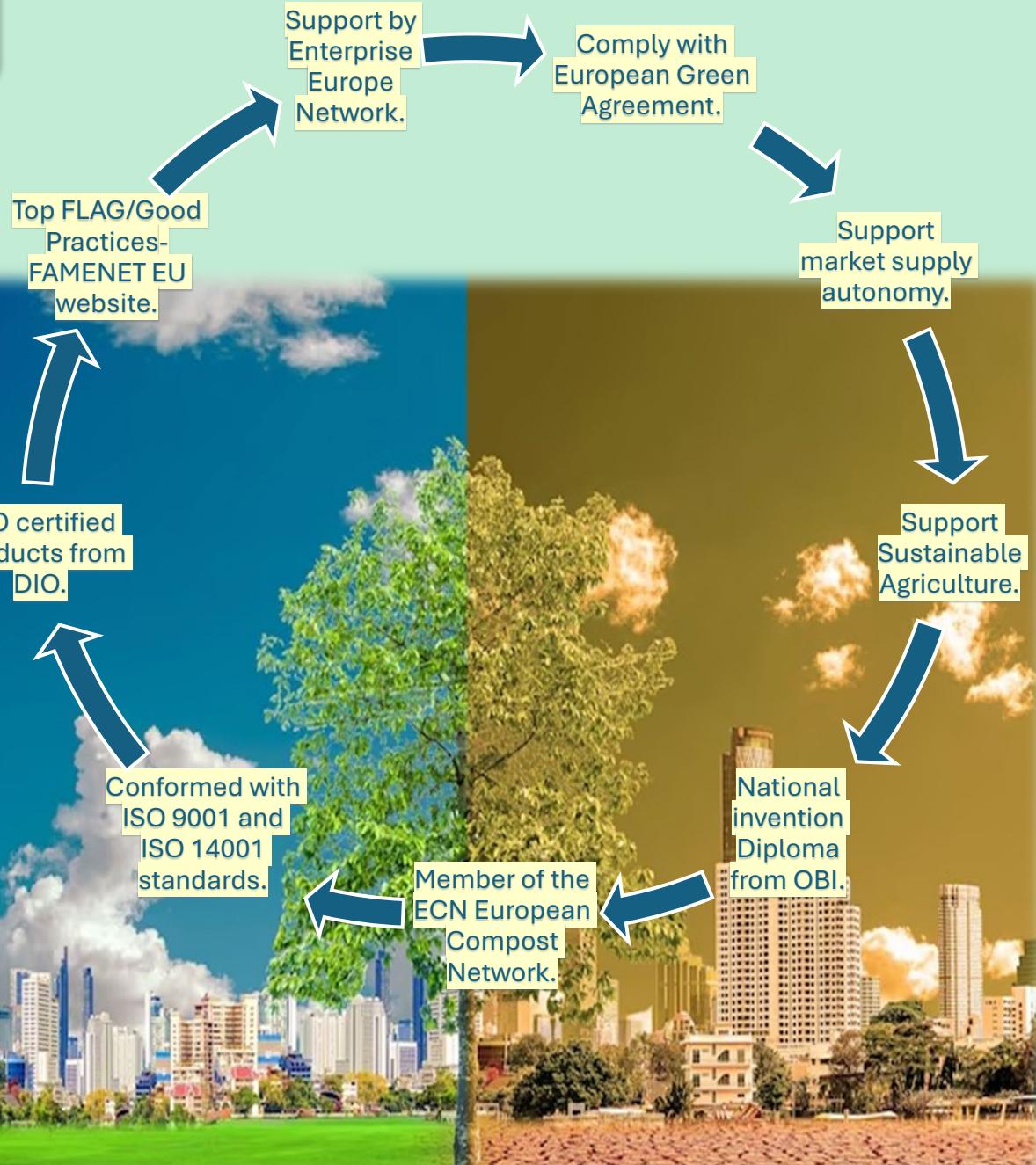
- CO₂ savings: up to 727,000 tons/year



- Sustainable tourism – Jobs in bioenergy, logistics, R&D



- Replacing fossil natural gas avoids 0.202 kg CO₂/kWh.



Contact Channels



- ✓ Phone
- ✓ Email
- ✓ Website
- ✓ Social Media
- ✓ Digital
- ✓ Marketing Campaigns
- ✓ Exhibitions/Fairs
 - ✓ Innovation
 - Talks/podcasts
- ✓ Partnership with Distributors
- ✓ 3PL services
- ✓ Exports

https://oceans-and-fisheries.ec.europa.eu/projects/organic-compost-and-soil-enhancements-seaweed-and-plant-waste_en

European Commission | EN

Food, Farming, Fisheries | Oceans and fisheries

Home > Projects > Organic compost and soil enhancements from seaweed and plant waste

PROJECT

Organic compost and soil enhancements from seaweed and plant waste

A FLAG project has supported a local business to develop high quality products for organic agriculture using green waste collected from shores.

Start date	1 Aug 2022
Project locations	Greece
Overall budget	€140 802
EU contribution	€91 522
65% of the overall budget	
Project website	ASSEA

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vodafone business

Mοντέλο κυκλικής αξιοποίησης φυσικών υλικών

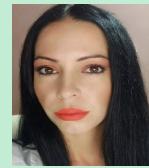
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Team Composition

Name: Apostolia Tsampouniari

Role: Founder – Mechanical Engineer



Name: Stamatios Niokastritis

Role: Site Manager - Operator



Name: Mike Niokastritis

Role: Engineer – Technician



Name: Fenia Goritsa

Role: Agronomist /CRM Manager



Name: Evangelia Fyntikaki

Role: Agronomist /Sales Manager



Name: Chara Megagianni

Role: Agronomist /Sales Manager



Name: Anna Limperopoulou

Role: Agronomist /Sales Manager



Team's Contact Details

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Conclusion

The project supports the EU Green Deal & bioenergy transition.



TRIPLE WIN !!!

- Waste problem solved
- Renewable energy & Sustainable Agriculture
- Climate impact reduced

