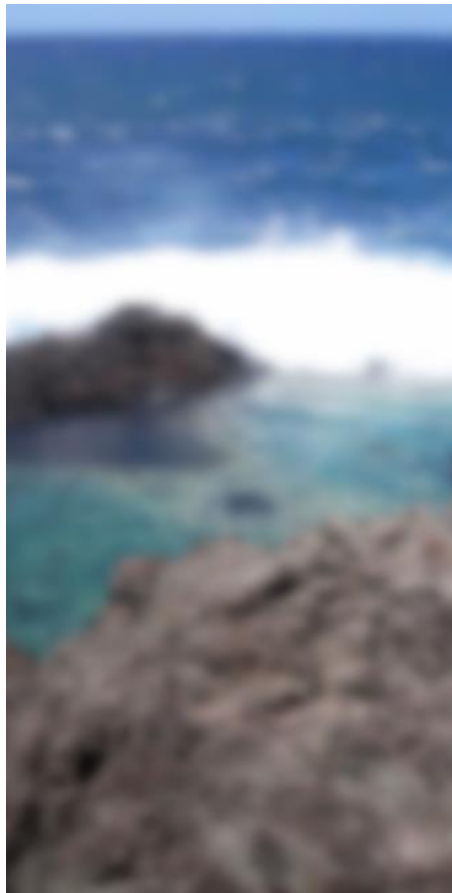
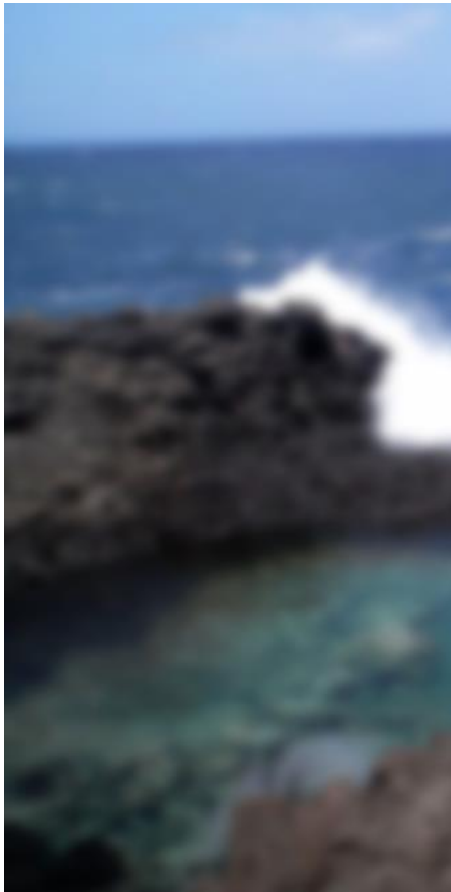




MINISTERO DELL'AMBIENTE
E DELLA SICUREZZA ENERGETICA



14 maggio 2024

Clean energy for EU islands forum 2024

Dott.ssa Maria Benedetta FRANCESCONI

DG COGEPRO DiPNRR – Ministry of
Environment and Energy

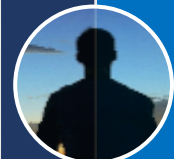
Clean energy for EU islands forum 2024



NRRP, REPowerEU, MASE



GREEN ISLANDS: The Program



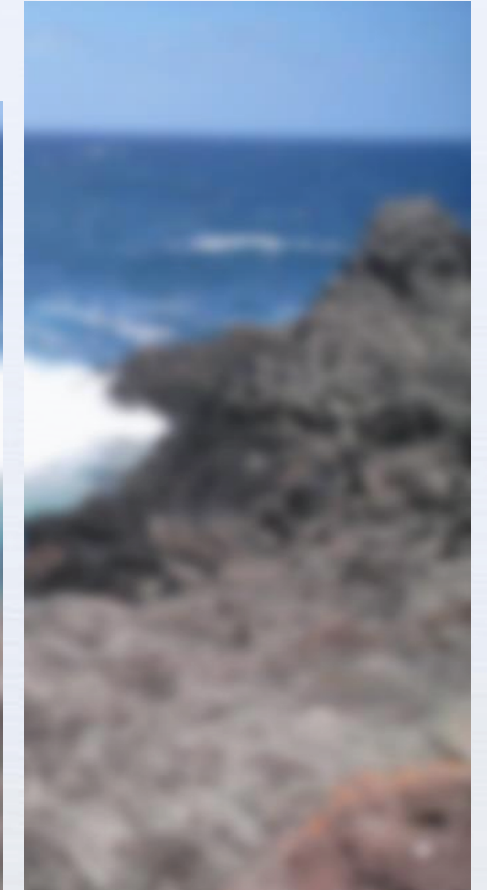
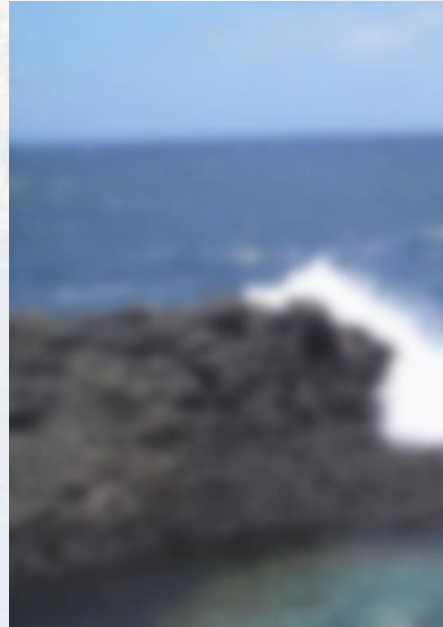
GREEN ISLANDS: Governance



GREEN ISLANDS: Implementation path and next steps



GREEN ISLAND: Pantelleria



NRRP, REPowerEU, MASE

Risorse finanziarie

33.71 billion €



NRRP MASE Programs | billion €

M2C1	1.1: Implementation of new waste management plants and modernization of existing plants	1,500
	1.2: Circular economy “ flagship ” projects	0,600
	3.1: Green islands	0,200
	3.3: Culture and awareness on environmental topics and challenges	0,030
M2C2	1.1: Development of agri-voltaic systems	3,610
	1.2: Promotion of RES for energy communities and jointly acting renewables self-consumer	0,500
	1.4: Development of biomethane , according to criteria for promoting the circular economy	0,500
	2.1: Strengthening smart grids	1,000
	2.2: Interventions to increase the resilience of power grid	0,300
	3.1: Production of Hydrogen in brownfield sites (Hydrogen Valleys)	0,741
	3.2: Hydrogen Use in hard-to-abate industry	0,450
	3.5: Hydrogen Research and Development	3,610
	4.3: Sviluppo infrastrutture di ricarica elettrica	0,500
	5.2: Hydrogen	0,500
	M2C3	2.1: Ecobonus e Sismabonus fino al 110% per l'efficienza energetica e la sicurezza degli edifici
3.1: Promotion of efficient district heating		0,200
M2C4	1.1: Realizzazione di un sistema avanzato ed integrato di monitoraggio e previsione	0,200
	3.1: Protection and enhancement of urban and peri-urban forests	0,210
	3.2: Digitalizzazione dei parchi nazionali	0,100
	3.3: Re-naturification of Po area	0,357
	3.4: Remediation of “ orphan-sites soil ”	0,500
	3.5: Ripristino e tutela dei fondali e degli habitat marini	0,400
M3C2	4.4: Investments in sewerage and purification	0,600
	1.1: <i>Interventi per la sostenibilità ambientale dei porti (Green Ports)</i>	0,400
		31,741



REPowerEU MASE Programs | billion €

M7	1: Scaled-up measure: Strengthening smart grids	0,450	
	2: Scale-up measure: Interventions to increase the resilience of power grid	0,063	
	3: Scale-up measure: Production of Hydrogen in brownfield sites (Hydrogen Valleys)	0,090	
	4: Tyrrhenian Link	0,500	
	5: SA.CO.I. 3	0,200	
	6: Cross-border electricity interconnection projects between Italy and neighbouring countries	0,060	
	7: Smart National Transmission Grid	0,140	
	8: Sustainable, circular and secure supply of Critical Raw Materials	0,050	
	13: Adriatic Line Phase 1 (Sulmona compressor station and Sestino-Minerbio gas pipeline)	0,375	
	14: Cross-border gas export infrastructure	0,045	
			1,973



NRRP, REPowerEU, MASE

USEFUL LINKS

- The RRF instrument was established by the European Regulation: [Regulation \(EU\) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility](#)
- Updated with REPowerEU Regulation in response to the Russian crisis: [Regulation \(EU\) 2023/435 of the European Parliament and of the Council of 27 February 2023](#)

The Italian National Recovery and Resilience Plan [NRRP] was approved by the European Council on 22 June 2021 as part of the Next Generation EU, a European intervention plan to help Member States after the pandemic crisis.

7 August 2023: the Italian Government presented a proposal to amend its NRRP, including the new REPowerEU chapter.

The European Commission has expressed a positive assessment of the amended NRRP, which was approved by EU COUNCIL IMPLEMENTING DECISION on 8 December 2023.



NRRP - REPowerEU



Resources:
194.4 billion €

Reforms:
66



Investments:
150

M2C1 | 3.1: GREEN ISLANDS

M2C1 | 3.1: Green islands

The 'Green Islands' Programme, is aimed at the **13 municipalities** of the **19 small islands** non-interconnected to the national electricity grid.

This programme includes a **specific mix of actions** in order to achieve a **sustainable development model to face** the challenges the islands .

- the lack of electricity inter **connection** with the mainland
- the need for greater **energy efficiency**
- poor **water** supply
- complex **waste** management process
- need to increase **renewable energy supply**.

The Investment consists in financing projects in **energy** (such as renewables energy sources, electric grid and energy efficiency), **water management** (such as desalination plant), **sustainable mobility** (such as cycling paths, zero-emission buses and boats) and **waste** (such as separation of waste).

Milestone e Target

T3-2022



M2C1 - 18

The Directorial decree shall approve the ranking of projects relating to the results of the public notice.

T2-2026



M2C1 – 19

At least 19 small islands implementing completed integrated projects involving at least three different types of intervention. Overall, the climate contribution of the investment as per the methodology in Annex VI of the Regulation (EU) 2021/241 shall account for at least 37% of the total cost of the investment supported by the RRF. (climate tagging)

NRRP

200 mln €

M2C1 | 3.1: Green islands

The total allocation for the Investment is 200 million Euros.

Resources are distributed among 5 priorities

Below the actual allocation of funds per priority, based on municipalities' proposals.

Renewable energy has the highest allocation percentage (38.8%)

Type	num.	Value (mln €)	%
URBAN WASTE	30	€ 16,8	8,4%
SUSTAINABLE MOBILITY	29	€17,4	8,7%
WATER EFFICIENCY	31	€68,7	34,4%
ENERGY EFFICIENCY	16	€19,3	9,7%
RENEWABLE ENERGY	34	€77,7	38,8%



ENVIRONMENTAL PECULIARITIES:
 Ecosystem fragility is often jeopardised by large tourist flows and climate change



INTEGRATED INTERVENTIONS:
At least three intervention for three different priorities.

NRRP

200 mln €

M2C1 | 3.1: Green Islands



GOVERNANCE

RECIPIENTS

MUNICIPALITY	ISLAND
ISOLA DEL GIGLIO	Giglio
CAPRAIA	Capraia
PONZA	Ponza
VENTOTENE	Ventotene
ISOLE TREMITI	Tremiti
LIPARI	Alicudi
	Filicudi
	Panarea
	Lipari
	Stromboli
MALFA	Salina
S. M. SALINA	
LENI	
USTICA	Ustica
FAVIGNANA	Favignana
	Levanzo
	Marettimo
PANTELLERIA	Pantelleria
LAMPEDUSA	Lampedusa
	Linosa

Directorate General
'Incentivi Energia'

Mission Unit of
NRRP



MINISTERO DELL'AMBIENTE
E DELLA SICUREZZA ENERGETICA



MONITORING TABLE

With the Directorial Decree no. 107 of 10/06/2022, the Monitoring Table was established with the task of verifying and evaluating the Project Sheets submitted by the applicant Municipalities in order to draw up the list of the Project Sheets eligible for financing. It also has the task of monitoring the progress of projects.

COMPOSITION:

A representative from the National Association of Italian Municipalities (ANCI), a representative from the National Association of Smaller Island Municipalities (ANCIM), a representative from the Higher Institute for Environmental Protection and Research (ISPRA), a representative from Gestore dei Servizi Energetici (GSE), a representative from Ricerca sul Sistema Energetico (RSE) and two representatives from the Ministry of the Environment and Energy Security, one of whom acts as Chairman. The Chairman is the Director General of COGESPRO.

TECHNICAL SUPPORT



M2C1 | 3.1: Green islands

URBAN WASTE

The most significant interventions concern the implementation ex novo or the adaptation **Ecological island/Municipal Collection Center**, including the purchase of supplies for operations, internal waste management, security and access.

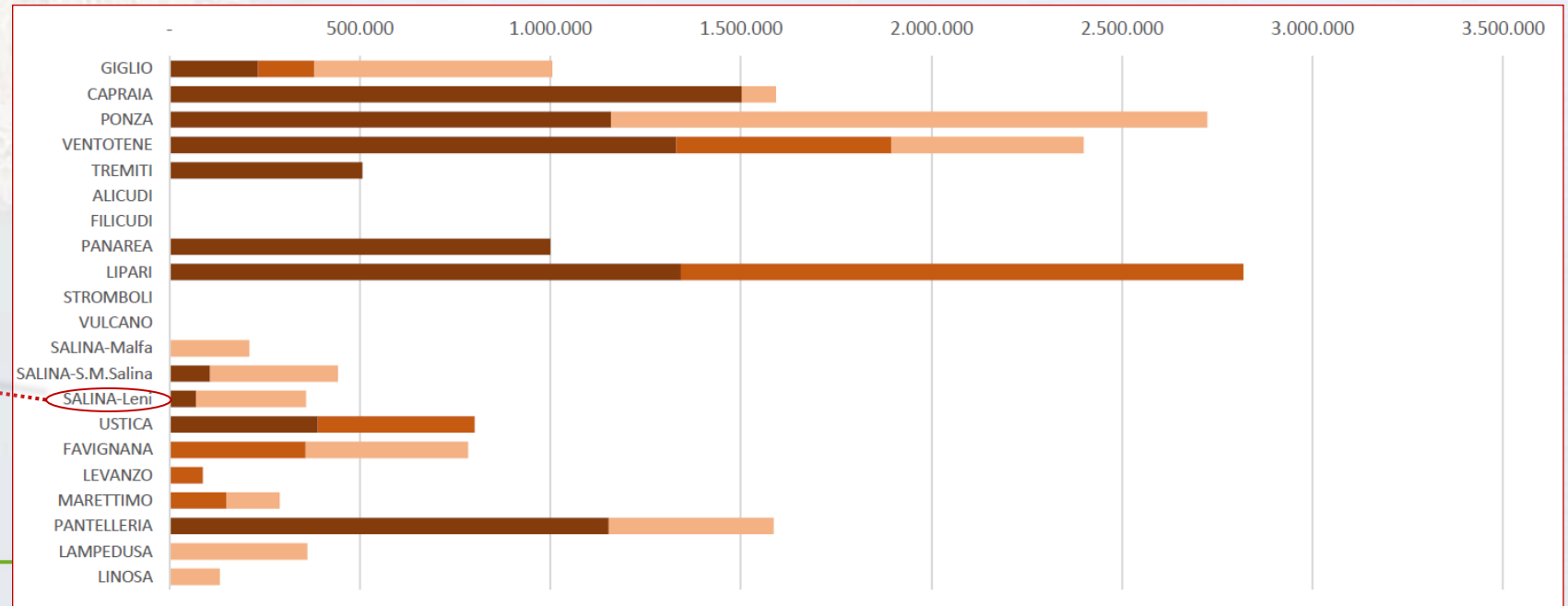
The interventions **on compost facilities (I.B)** e **Collection Center (I.C)** provide for the direct purchase of equipment for improvement separate waste collection and subsequent waste management, including prevention and dispersion in the sea.

The interventions include also **programs for training and awareness** for citizens and tourists.



16.8 ML€

- I.A: Ecological island and/or re-use preparation centre
- I.B: Community compost facilities and support for domestic composting
- I.C: Waste collection system



LENI (I.A.) - Installation of a computerised eco-island for waste collection in the harbour area, to serve tourists and boaters. The photovoltaic panels are installed on the roofs with the aim of minimizing the energy consumption of the eco-island.

M2C1 I 3.1: Green islands

SUSTAINABLE MOBILITY

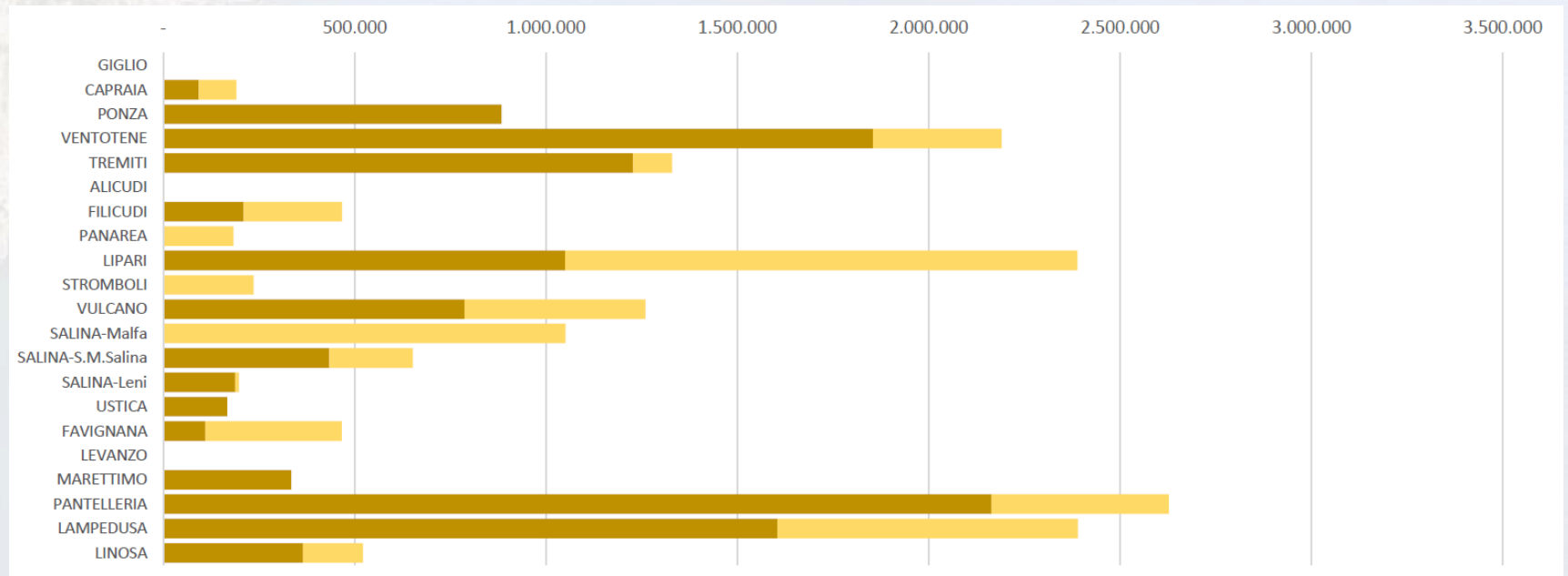
The interventions of Typology II.A concern the purchase of **means of transport for public use** (municipal services or local transport) and incentives to economic operators for **sharing mobility services**.
 The interventions of Typology II.B are incentives to residents and tour operators for the purchase of **electric vehicles** (zero emissions).



17.4 ML€

■ II.A: Purchase of electric vehicles

■ II.B: Sharing mobility e incentives for the purchase of electric scooters, pedal-assisted bicycles and kick-scooters



M2C1 I 3.1: Green islands

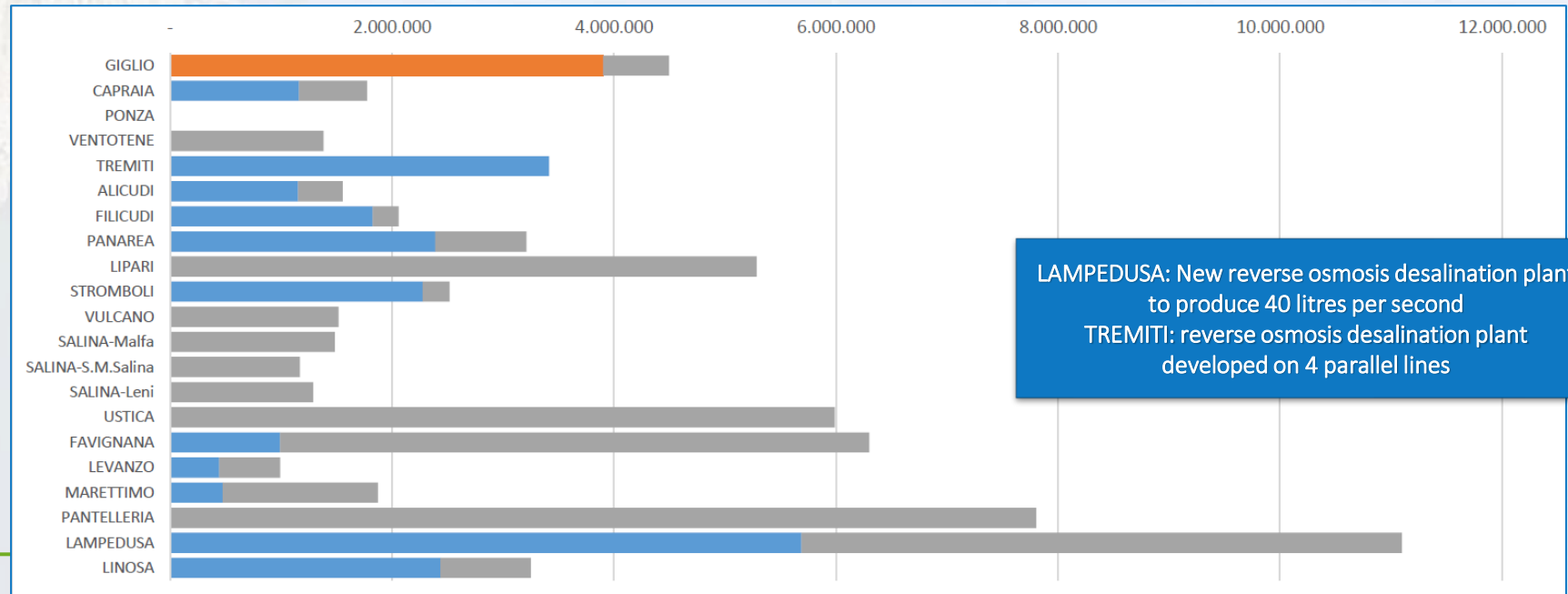
WATER EFFICIENCY

New construction of **seawater desalination systems** and extraordinary maintenance to enhance the water independence of the islands zeroing the use of supply from tanker in winter.
 Extraordinary maintenance or upgrading of **water networks** (pipelines and tanks)



68.7 ML€

- **III.A:** New construction of seawater desalination systems (desalinators) aimed at the production of drinking water, mobile or removable, consisting of compact and expandable modular systems
- **III.B:** Integrative and/or improvement interventions and infrastructure upgrading of existing desalination facilities
- **III.C:** Construction of new water systems or safety/extraordinary maintenance of existing system, encouraging the installation of drinking water systems with the use of low energy consumption techniques, as well as for the recovery of micro and phytodepurated rainwater, with collection from internal aquifers, also enhancing the use of renewable energy



M2C1 I 3.1: Green islands

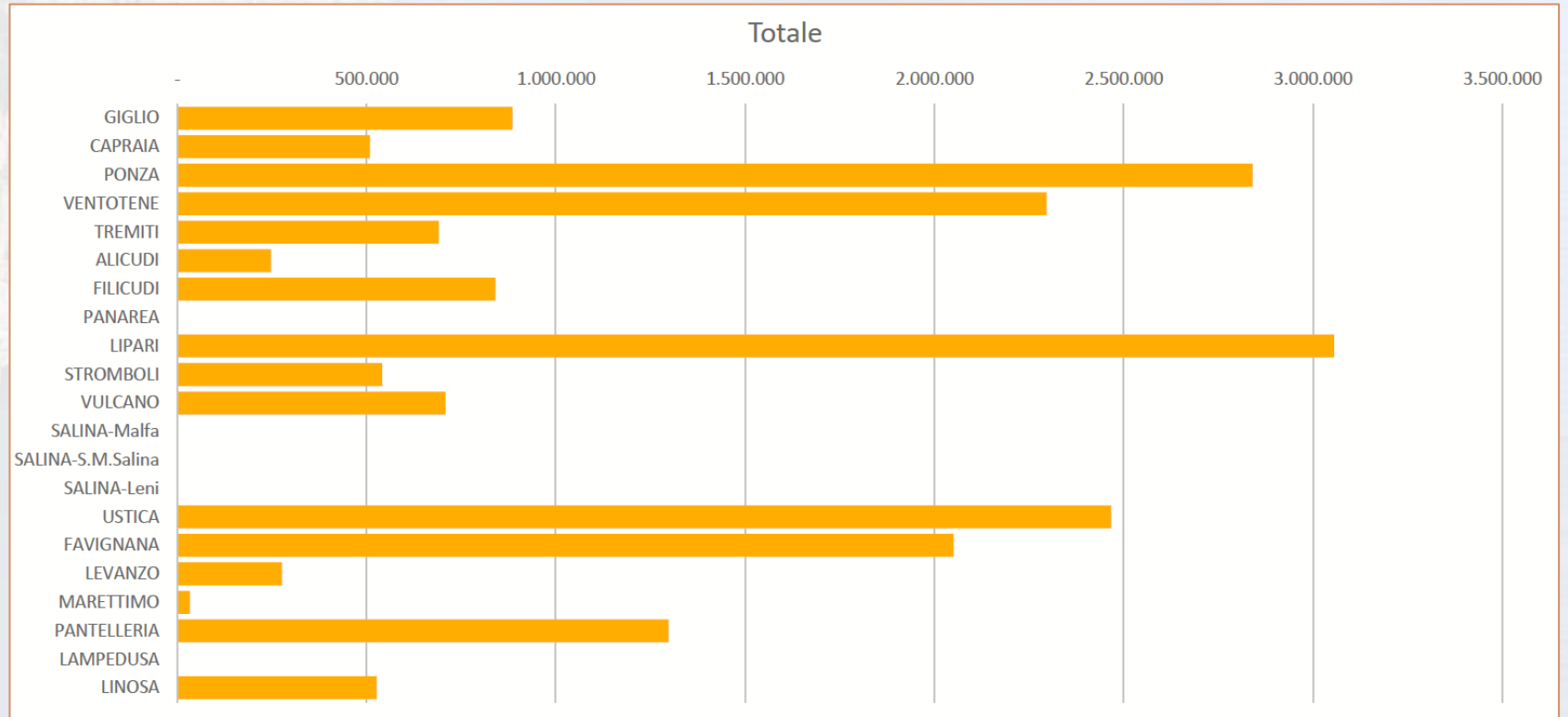
ENERGY EFFICIENCY

Interventions are mainly on **public buildings** for energy efficiency, public lightning systems. Preliminary to the planning of the works is the drafting of **energy diagnostics**.



19.3 ML€

IV.A: Energy Efficiency of the Public real estate assets



M2C1 | 3.1: Green islands

RENEWABLE ENERGY

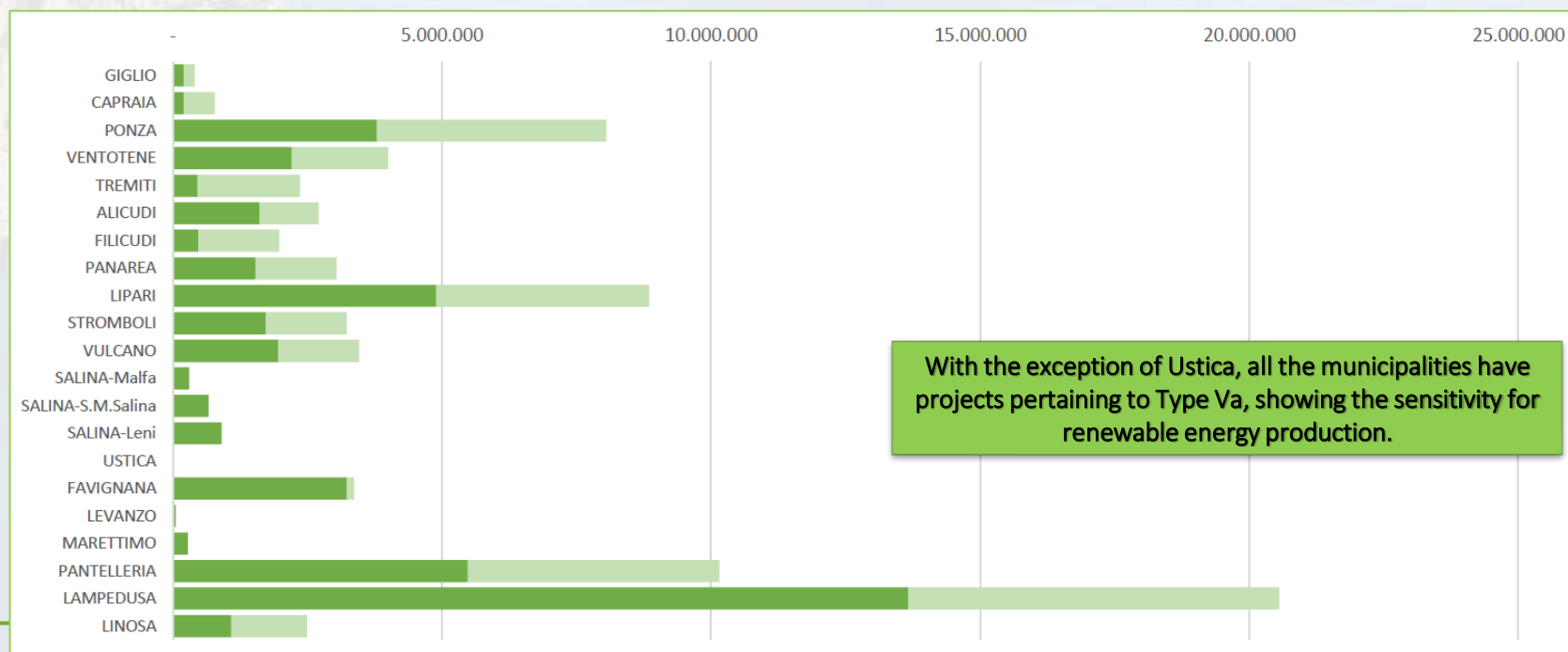
- V.A. projects essentially involve the construction of **photovoltaic plants**, often instrumental in the establishment of **Renewable Energy Communities (RECs)**.
- V.B. projects have been presented that envisage the installation of voltage regulators to stabilise the electricity grid, storage systems, microgrid controller technologies functional to the integration of electricity from renewable sources, new MV cables connecting renewable energy plants with the grid, replacement of existing overhead lines with underground cables.



77.7 ML€

V.A: Construction of renewable energy plants, also in combination with storage systems, owned by the Municipality

V.B: Interventions on electricity grid and related infrastructure to ensure the continuity and security of the electricity grid and promote the integration of energy produced from renewable sources



With the exception of Ustica, all the municipalities have projects pertaining to Type Va, showing the sensitivity for renewable energy production.



- **V.A:** Construction of renewable energy plants, also in combination with storage systems, owned by the Municipality
- **V.B:** Interventions on electricity grid and related infrastructure to ensure the continuity and security of the electricity grid and promote the integration of energy produced from renewable sources

GIGLIO (V.A) - Construction of a **wave energy recovery plant** (total nominal power of 20 kW). The system consists of an intelligent smart grid, i.e. floating docks connected to a system of catenaries and dead bodies were installed in the port of Isola del Giglio, without damaging the aesthetic effect of the port. The system of mechatronic devices located on the pontoon that recovers the kinetic energy induced by the wave motion, converts it into electrical energy that in turn supplies power to storage systems (battery packs), which are essential to allow better management of the peak energy demand in summer. This is a type of project already applied in several ports abroad, as well as on off-shore facilities, such as aquaculture plants, etc.



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VENTOTENE (V.A) - Installation of no. 4 PV systems (total capacity 428 kW):(i) system no.1 consists of 100 3kW modules installed on private building roofs and granted free of charge by the municipality in exchange for a share of the energy produced;(ii) the other 3 plants are installed on roofs of public buildings.



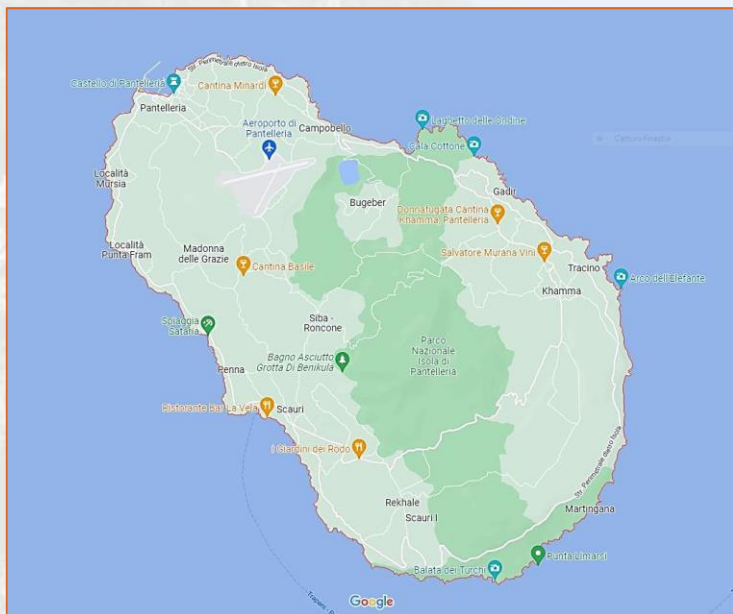
STROMBOLI (V.B) - Installation of energy storage systems that promote self-consumption by 'shifting' the supply of renewables during periods of high load demand with modernisation and restructuring of distribution networks with a smart grid logic. The technology is the micro grid controller type, which is an innovative and unified architecture capable of guaranteeing efficient and stable grid control, functional to the integration of electricity from renewable sources, from storage devices and other modifiable loads present on the island, guaranteeing safe grid management. To complete the project architecture, Smart Devices will be installed that can collect information from the field and enable intelligent network management. The laying of optical fibre to connect the Secondary Cabins and the loads and modulated energy sources, together with the network monitoring and control devices and systems, will ensure the improvement of the quality of the electricity service.



VENTOTENE (V.B) – (1) MICRO GRID CONTROLLER (MSC): This is an innovative and unified architecture capable of guaranteeing efficient, stable and functional network control for the integration of electricity from renewable sources, storage devices and other modifiable loads on the island, guaranteeing safe management of island networks. It will be possible to monitor the energy sources equipped with innovative and purpose-enabled components, capable of communicating with an advanced TLC system.

(2) SMART DEVICES: to complete the project architecture, Smart Devices will be installed that can collect information from the field and enable intelligent management of the network also through their combined operation with the MGC.

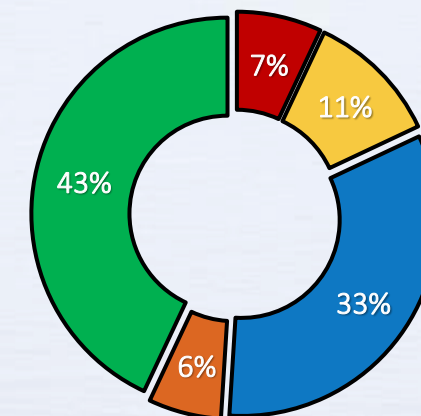
PANTELLERIA



POPULATION 7.496

AREA (km²) 84,53

Type	num.	Value (mln €)
URBAN WASTE	2	1.585.644,28 €
IA		1.152.985,34 €
IB		-
IC		432.658,94 €
SUSTAINABLE MOBILITY	2	2.627.641,72 €
IIA		2.164.701,26 €
IIB		462.940,46 €
WATER EFFICIENCY	1	7.802.066,38
IIIA		
IIIB		
IIIC		7.802.066,38
ENERGY EFFICIENCY	1	1.297.507,98 €
IVA		1.297.507,98 €
RENEWABLE ENERGY	2	10.155.472,98 €
VA		5.477.044,41 €
VB		4.678.428,57 €



- Urban waste
- Sustainable mobility
- Water efficiency
- Energy efficiency
- Renewable energy

GREEN ISLAND: Pantelleria



PANTELLERIA

RENEWABLE ENERGY



PANTELLERIA (V.A) - The proposed plant aims at producing electricity through:

- 1) an electric generator for the combustion of biogas with a nominal size of 40 kWp;
- 2) a photovoltaic plant with a nominal size of 50 kWp.

The general project objective consists in the construction of a plant for the treatment and valorisation of the Organic Fraction of Municipal Solid Waste (OFMSW) and a portion of biomasses from clippings and prunings, as well as waste from wine cellars and oil mills, in order to valorise this important part of waste, which today constitutes a huge cost for the community. The plant will treat over 1,000 t per year of OFMSW, which will be digested with the ultimate aim of producing about 150,000 m³ per year of biogas.

M2C1 I 3.1: Green islands

Implementation path

The project selection procedure began with the ministerial decree no. 390 of 25 November 2021

On the 27th of September 2022, DD no. 219 is adopted. Consequently, the projects presented by the Municipalities that have successfully passed the preliminary investigation phase are **admitted to financing**.

All the agreements with the 13 implementing bodies have been signed and registered. Approximately **40 million euros** were transferred to the beneficiary municipalities. The executive procedure has been started with the preparation of the assignments and tender notices by the implementing entities.

DD no. 107 of 10 June 2022: the Monitoring Table for the implementation of the "Green Islands" Program was established with the task of verifying and evaluating the Project Sheets presented by the requesting municipalities.

M2C1-18 milestone was achieved with the adoption of directorial decree no. 219

MASE - Link

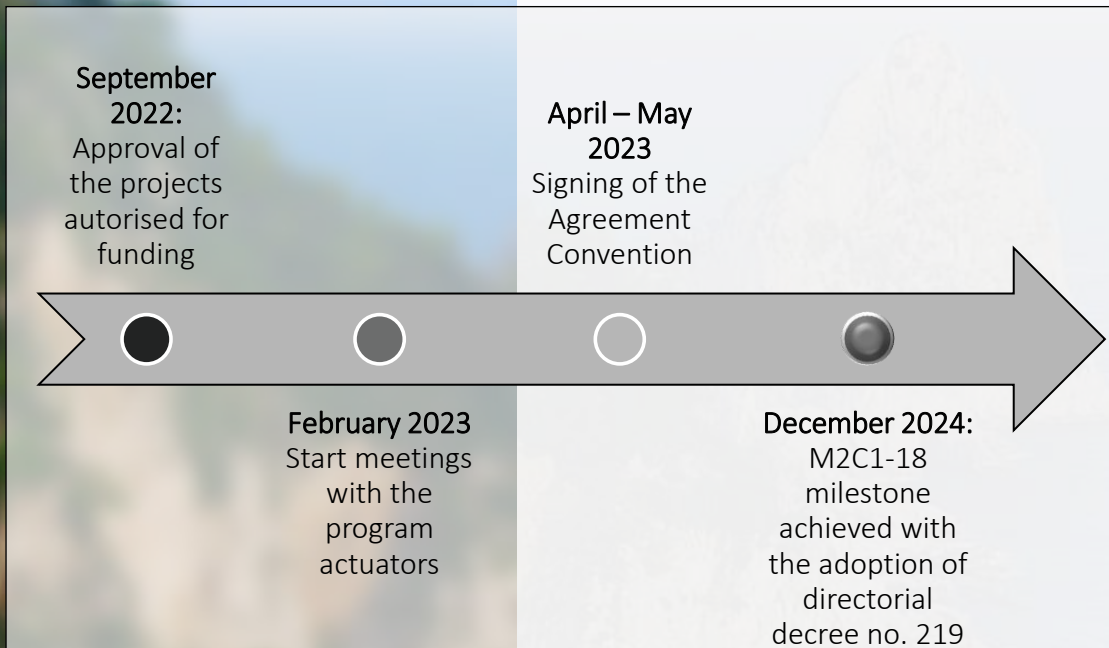


[M2C1 I 3.1: Isole Verdi](#)

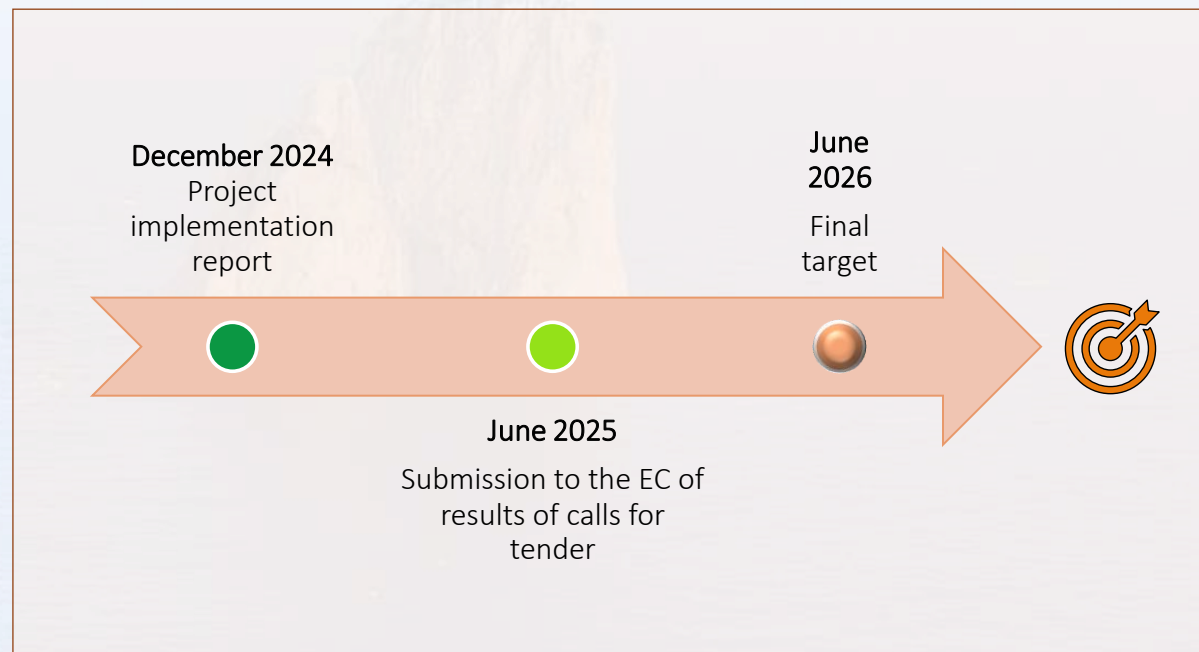
Documents and references



- [Decreto n. 390 del 25 novembre 2021](#) establishing the "Green Islands" program
- [Decreto n. 107 del 10 giugno 2022](#) – establishing the Monitoring Table



Next steps



CHALLENGES



- Financial resources to anticipate the expenses
- Specialized technical skills available for municipalities
- Technological complexity of some projects (i.e. renewable energy plants)
- Authorisation procedures / permitting actions (considering the landscape protection regime that characterises the areas involved)

OPPORTUNITIES



- Transferring resources: Advance payment 20%, Periodic Progress Reports (SAL)
- Eligibility expenditure related to staff: Cost to hire staff (art. 1, comma 1, D.L. 80/2021), Technical costs (Costs per design, Works Director, tests, investigations, commissions. etc.)
- Possibility of making changes on project sheets over the process (remodulation - accounting adjustments)