



ENEPLAN

Developing skills in the field of integrated energy planning in MED Landscapes

Environmental and landscape assessment in Malta

Workshop on environmental and landscape assessment

Seville, 12th-16th December 2016

“Pablo de Olavide” University



Erasmus+

Landscape in Maltese Legislation

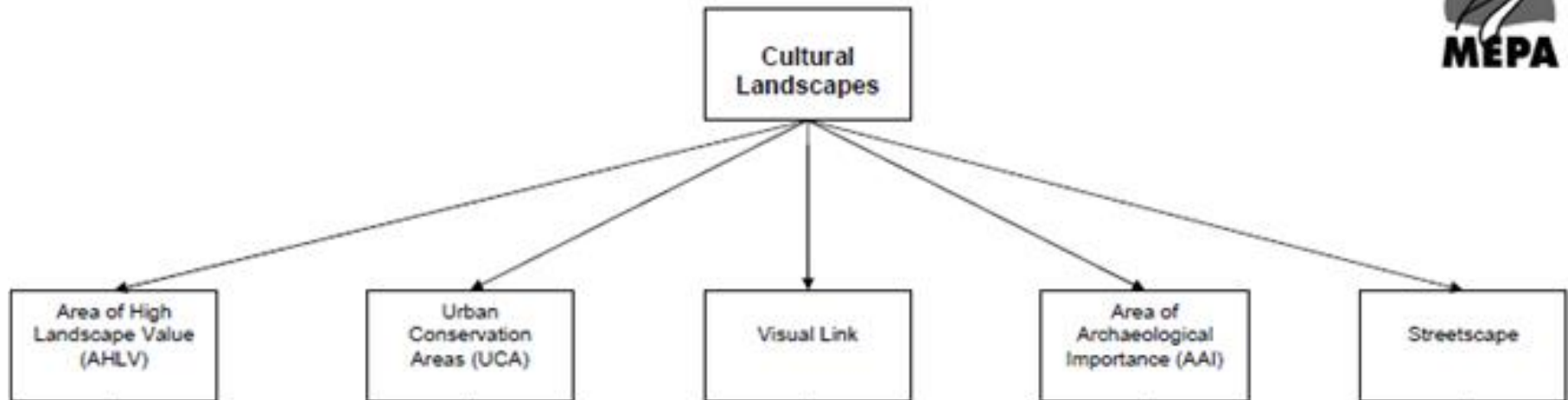
Constitution of Malta: Safeguard of landscape and historical and artistic heritage

Cultural Heritage Act (Cap. 445: ACT VI of 2002, last amended in 2009):
Landscape as part of cultural heritage

Environment & Development Planning Act (ACT X of 2010, last amended in 2014):

- Combines and consolidates previous Acts on environment and development
- Prescribes scheduling of properties by the **Malta Planning Authority** for conservation, including areas of landscape importance
- Landscape is one of the existing elements and conditions, natural or man made, whether together or in isolation, that form the "environment"
- Requirement of development permission for any development activity

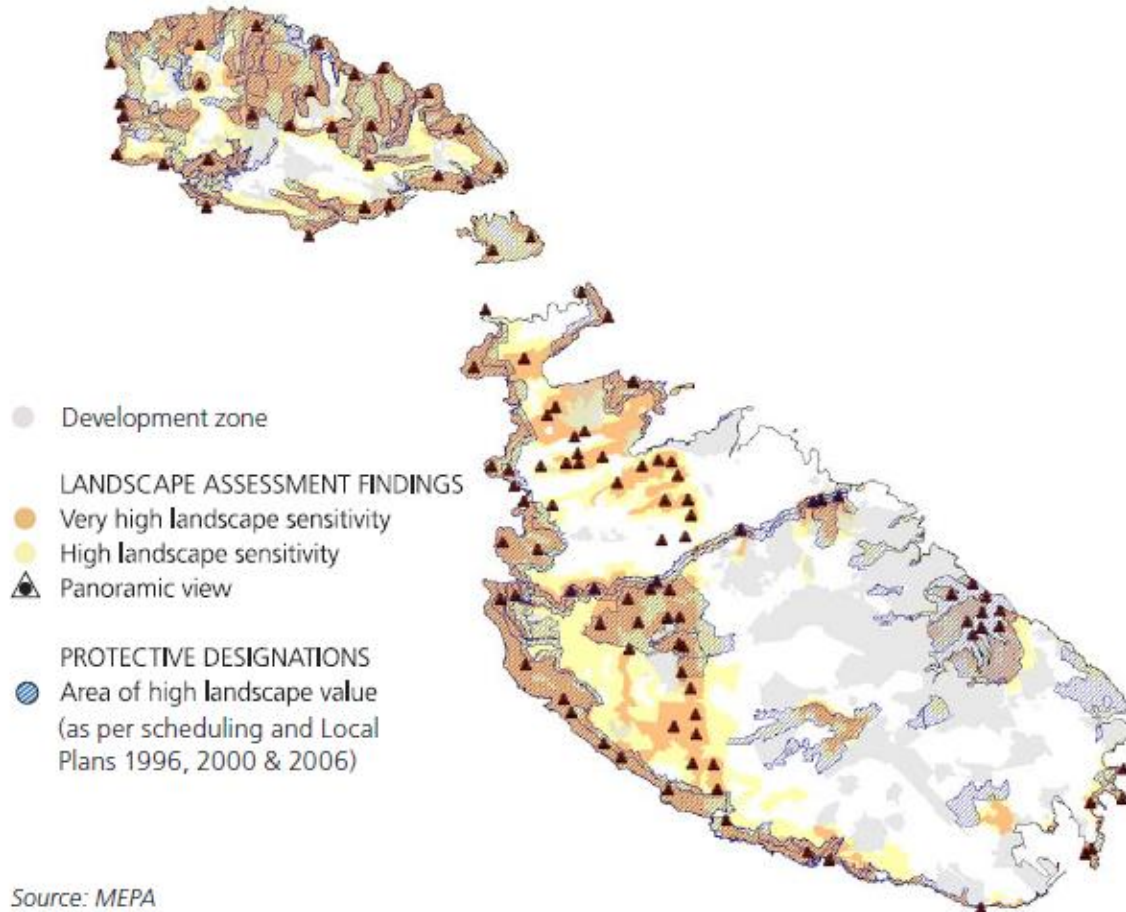
Landscape typologies



The Maltese Landscape

- **Rich diversity** of landscape features: coast and sea, historic fortifications, terraced fields and churches
- **High sensitivity:** relatively small features can have a disproportionate influence on long distance views
- **33% of the total land area are legally protected landscapes**, but the Landscape Assessment Study carried out by the Malta Environment and Planning Authority had identified that over 51% of the Maltese Islands had high or very high landscape sensitivity
- **Areas of High Landscape Value (AHLV)** have been designated under the provisions of the Development Planning Act in 1996, 2000 and 2006, and through the local planning process.

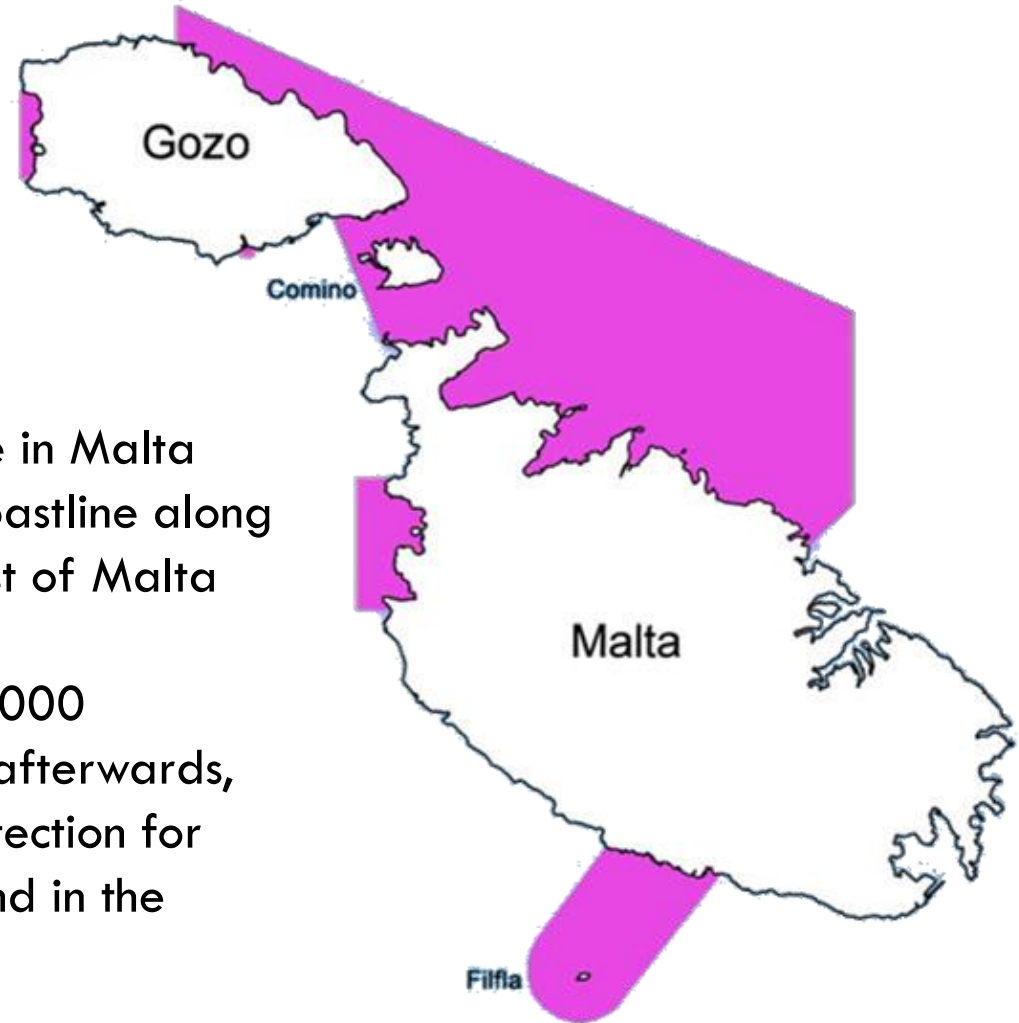
Areas of High Landscape Value (AHLV)

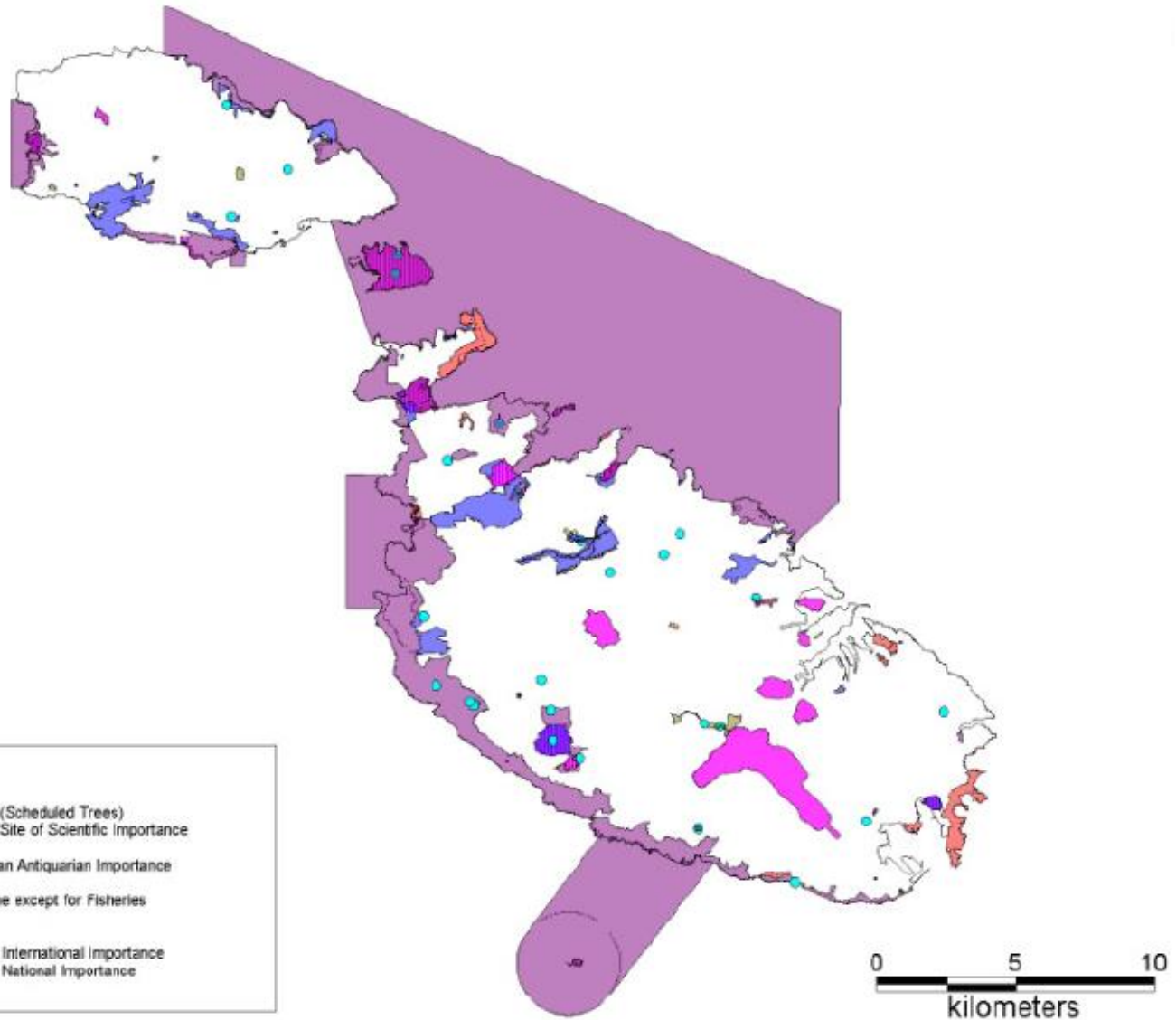


Main landscape protection tool of Maltese planning system

Marine Protected Areas (MPA)

- The first marine Natura 2000 site in Malta was designated in 2008 in the coastline along the area off the North West coast of Malta
- Other 4 areas, covering over 18,000 hectares, have been designated afterwards, mostly because they provide protection for over 80% of Posidonia beds found in the Maltese Islands.





Strategic Plan for Environment AND Development (SPED)

Approved in 2015, is a **National-level strategic document** regulating the sustainable management of land and sea resources

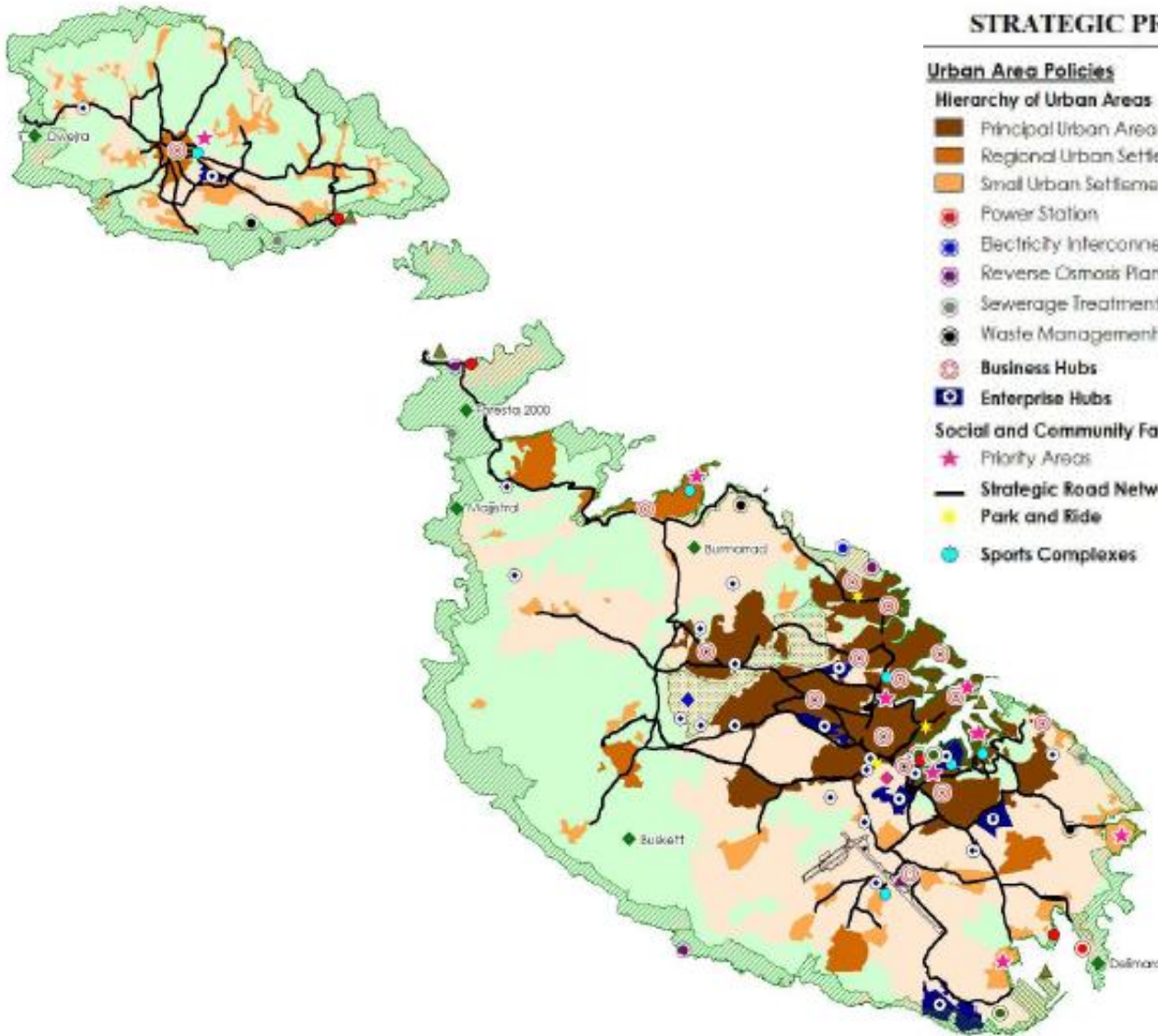
Objectives:

- Improve townscape, historic cores
- New development away from protected areas
- Promote recreation without adverse landscape impacts
- Protect/enhance positive qualities/traditional landscape components
- Regulates co-existence of coastal/marine uses – allows **large scale renewable energy** infrastructure up to 12 NM from the coastline

Moreover...

Thematic Objective 9: To control Greenhouse gas emissions and enhance Malta's capacity to adapt to Climate Change by

1. Supporting the implementation of Malta's Energy and Water Policies
2. Supporting the implementation of the National Mitigation Strategy and National Adaptation Strategy
3. Requiring the integration of small scale renewable energy infrastructure into the design of buildings, particularly in public, industrial and commercial sectors
4. Promoting renewable energy sources and zero carbon modes for transport
5. Directing large scale solar farms to areas as identified in the proposed Solar Farm Planning Policy



STRATEGIC PROPOSALS

Urban Area Policies

Hierarchy of Urban Areas

- Principal Urban Area
- Regional Urban Settlements
- Small Urban Settlements
- Power Station
- Electricity Interconnection
- Reverse Osmosis Plants
- Sewerage Treatment Plants
- Waste Management Facilities
- Business Hubs
- Enterprise Hubs

Social and Community Facilities

- Priority Areas
- Strategic Road Network
- Park and Ride
- Sports Complexes

Rural Area Policies

Strategic Areas for Recreation

- Country Parks
- Tai' Goll National Recreation Centre
- Marsa Sports Complex

Hierarchy of Landscapes

- Areas of High Landscape Protection
- Areas of Landscape Protection

Strategic Open Gaps

- Strategic Open Gap to be Retained
- Luqa Aviation Hub

Coastal Zone and Marine Area Policies

Terrestrial Coastal Zone

- Predominantly Urban Coast
- Predominantly Rural Coast
- Integrated Harbour Mgmt

Infrastructure on the Coast

- Industry/ Freeport
- Fishing Harbours

Permitting procedures for RES

- **All PV installations** require approval or notification from Enemalta Corporation and the Regulator for Energy and Water Services (REWS). Planning Applications permits can be requested in certain types of installations – the height and visibility can be requested criteria for a PA application. **Planning Authority DG 2015** is to be referred to for installations. Other specific **guidance documents** are provided.
- **Larger installations** (such as wind turbines) require a normal **building permit** regulated by the **Environment & Development Planning Act** and approved by the planning directorate within MEPA. A normal **Environmental Impact Assessment** procedure is undertaken.

The **National Renewable Energy Policy** calls for ‘simple permitting and regulatory procedures’ and a ‘a one-stop shop authorization arrangement’.

Environmental Impact Assessment (EIA) in Malta

Subsidiary Legislation 549.46 (Legal notice 114 of 2007, last amended in 2016)

Body in charge: Environment and Resources Authority (ERA)

All types of energy related developments, including RES, may qualify for an EIA process:

- **Project Description Statement (PDS)** to identify if further EIA screening is needed.
- For projects under Category I of Schedule IA of EIA Regulations (i.e. hydroelectric plants), EIA process starts immediately and requires an **Environmental Impact Statement (EIS)**.
- For projects under Category II (i.e. wind farms with more than 5 turbines or with a total output higher than 5MW), detailed EIA screening will assess whether significant negative impacts are likely to occur. If so, an **Environmental Planning Statement (EPS)** is needed.
- If an EIS or EPS is needed, **Terms of Reference (TOR)** determining the content of the EIA report are issued by ERA after consultation with agencies of Government, NGOs, affected Local Council/s and the public.

Environmental Impact Assessment (EIA) in Malta - #2

Both the EIS and EPS identify, describe and assess the:

- Proposed project
- Alternatives to the proposed project (including alternative sites & technologies)
- Site and surrounding of the proposal (baseline conditions)
- Potential impacts to be generated
- Mitigation measures that prevent, minimize or offset environmental impacts
- Proposals to monitor the actual effects, after implementation

EIS/EPS are reviewed and assessed by ERA in **consultation** with agencies of Government, NGOs, Local Councils and the public. Should the development be approved, it would be subject to specified conditions and **post-permit monitoring**.

Planning Guidance for Micro-Wind Turbines

- Released in May 2010 after **Directive 2009/28/EC** on the promotion of the use of energy produced from RES
- Provides policy guidance on the **location, siting and design** of roof- and tower-mounted micro-wind turbines (generating capacity of **less than 20kW**)
- Guides the siting of the turbines towards locations where possible amenity **impacts can be mitigated** and the benefits from the technology can be maximized
- **Restricts the turbines development in sensitive locations** including habitats of sensitive species, visually sensitive landscapes, townscapes and buildings of architectural/historical importance and noise sensitive receptors
- Provides **criteria to mitigate potential impacts** on ecology, visual impact and other possible causes of nuisance to surrounding receptors

Domestic PV systems

Development Control Design Policy, Guidance and Standards 2015 (DC 15)

Applies to small scale PV systems, encouraging their installation

- a) **At ground level** within backyards where they may be mounted on the ground using freestanding frames (highest point not exceeding 3.4 metres above finished ground level)
- b) **Within the building fabric or on roofs** (visual impact mitigation requirements)
- c) **In surface car parks and other open spaces**, particularly within non-residential developments (freestanding frames having a maximum height of 3.4 metres)

The Planning Authority will demand energy conservation and energy generation measures to be **architecturally integrated** within the built fabric and envelope.

Solar farm planning policy

Legislative references:

- Directive 2009/28/EC on the promotion of the use of energy produced from renewable energy sources
- National Energy policy / NREAP

Regulates PV installations, whether ground-mounted or not, occupying a **footprint larger than 1000 m²** (Standalone, ground-mounted PV installations with a footprint smaller or equal to 1000m², are not favourably considered).

Provides criteria for Location of Solar Farm development:

- ***Location Principles***
- ***Design principles***

Solar farm planning policy #2: Location Principles

Solar farms should

- be sited in the vicinity of urban areas, or areas with high electrical consumption, of **low landscape sensitivity** - not involving: open countryside; protected/scenic areas or sensitive locations (e.g. Scheduled areas); Natura 2000 sites; garrigue and maquis; valleys; afforested areas; areas of archaeological/cultural/scientific interest
- not take up virgin land, or good quality agriculture land - do not conflict with **rural conservation**
- have minimal impacts on the skyline, significantly **mitigate visual impact**
- not be located in sloping sites, ridge edges, or sites requiring major-impact interventions (infrastructural works for grid connection, removal of mature vegetation/trees, dismantling of old rubble walls, re-profiling of terraced fields, topographic re-engineering works)

Solar farm planning policy #3: Design Principles

- Ensure that the solar farm fits appropriately in the **site topography**
- Limit the height of the panels above the surrounding **terrain**
- Introduce **context-adapted boundary treatment and peripheral landscaping**
- Include **underground ancillary infrastructure**, where possible
- Limit trenching work to **existing routes**, avoid the formation of new or altered access routes
- **Limit the scale of infrastructure** according to the scale of the solar farm
- Ensure that interventions on site are reasonably **reversible**, include a decommissioning and site-reinstatement plan upon the cessation of the project
- Include **mitigation** measures

The ENERSCAPES project

<http://www.enerscapes.eu/>



The MED project ENERSCAPES – Territory, Landscape and Renewable Energy, ended in 2013, aimed to **investigate and evaluate impacts of RES development** on distinct but recurring patterns of landscape all over the Mediterranean regions.

The main output is a **Local Action Plan** for each pilot area, defined with a **common methodology** but also adapted to different contexts, able to support territories in developing RES according to landscape values.

The project was **coordinated by MIEMA**, with the participation of an international and multidisciplinary partnership composed by organizations from Italy, Greece, Cyprus, France, Slovenia, and Spain.

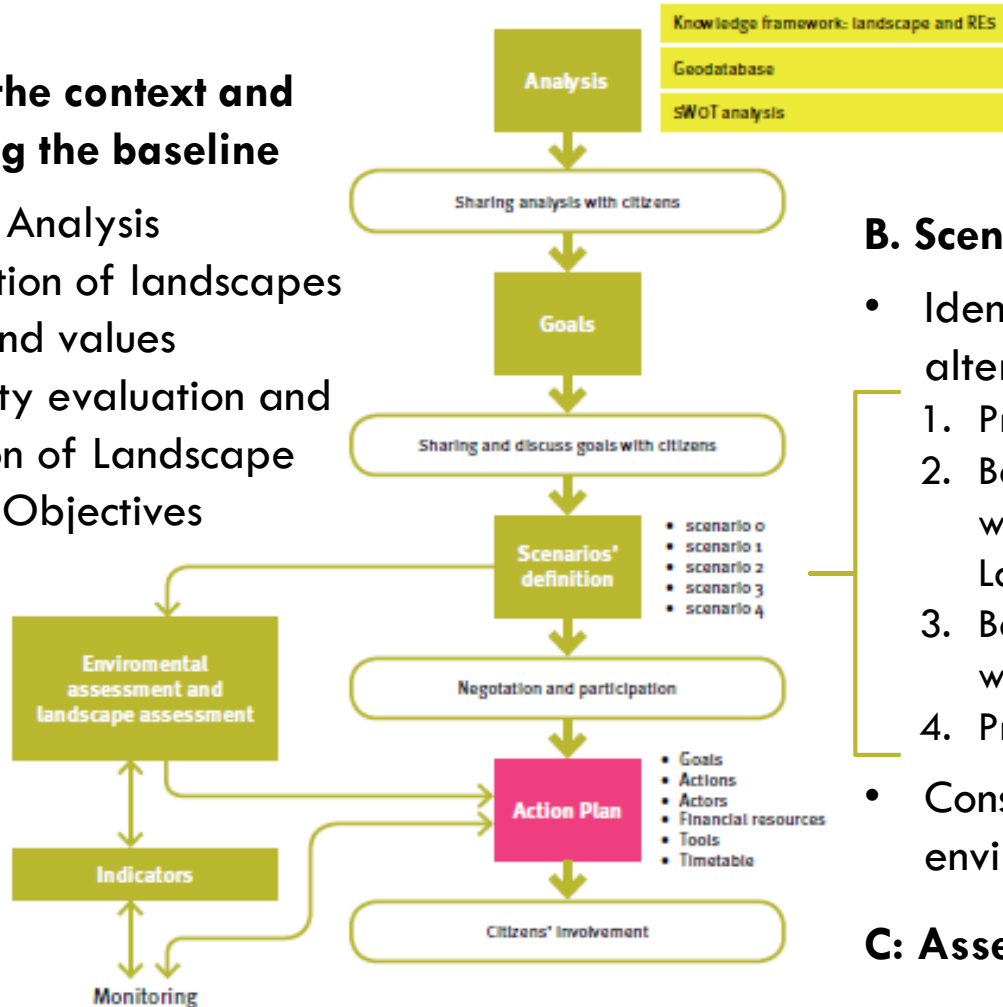
ENERSCAPES macro-phases

1. Partners analyzed the **legal framework** on energy, landscape protection and planning, and their own **local context** (ecological and cultural landscapes and energy potentialities). They mapped the structure of **local governance and actors** related to landscape protection and energy development. They realised a **SWOT analysis** for the pilot area.
2. Partners formulated **4 different scenarios** and a common set of **indicators** for scenario assessment, in order to choose the best strategy of RES development and landscape protection in the area. They defined a Communication and Participation plan to **involve local actors and population** in the scenario building & assessment and in the definition of the Local Action Plan.
3. The different experiences were compared in order to improve the Local Action Plan of each partner and **define the common guidelines** to integrate RES and landscape in the governance processes of EU local administrations.

ENERSCAPES methodology

A: Setting the context and establishing the baseline

- Context Analysis
- Recognition of landscapes assets and values
- Sensitivity evaluation and definition of Landscape Quality Objectives



B. Scenario Analysis

- Identifying and evaluating alternative scenarios:
 1. Priority to Landscape
 2. Balance between Landscape & RES, with particular attention to Landscape
 3. Balance between RES & Landscape, with particular emphasis on RES
 4. Priority to RES
- Consulting Authorities with environmental responsibilities.

C: Assessing the effects of the plan

1

ENERSCAPES in Malta

*MIEMA focused on **photovoltaic solar energy**, presently the source with the highest potential.*

The *Pilot area* is on the North-East coast of Malta and has an extension of approximately 50 ha.

It is part of a rural area but is surrounded by a number of urban settlements. It has been used as a rubbish dump for decades, but the surrounding area is a very scenic part of Malta, and is located along one of the most important tourist corridors of the Island.

The site itself has no positive environmental characteristic, but care must be taken from a visual perspective since it is visible from many places in Malta.



ENERSCAPES in Malta: SWOT Analysis

STRENGTHS

- Increase in PV efficiency, decrease in PV costs
- increasing prices for electricity
- PV easily integrated in existing building
- R&D departments in academic institutions
- political commitment (NREAP, etc.)
- financial support from government for new RES installations
- PVs are completely silent and potentially nonintrusive visually as they follow terrain or non visible from streetscape if on roofs
- flexibility, reversibility, and possibility to easily integrate PV plants, especially in urban and industrial environment
- good potential for solar energy development

WEAKNESSES

- High installation capital costs
- long payback period of investment in RES
- small land area with many competing land uses and fragmentation of land ownership
- demanding logistics needed to import PV systems and maintain supply
- PV's south reflection negatively affects drivers and landing aircrafts
- difficulties to integrate PV plants in landscape, due to the high level of inter-visibility in Malta
- ancillary infrastructure needed for large plants
- closeness to the sea is a factor of corrosion
- visual clutter in urban and industrial areas

ENERSCAPES in Malta: the Landscape Scenario

- RES/PV development in the next 5-10 years under **highly restrictive conditions** and most defended landscape values, with **biodiversity integrally preserved**.
- RES plants will be localized in **urban areas**, avoiding big RES plants in high ecological and cultural quality landscape areas. In **rural areas**, only small, well-integrated RES plants will be permitted.
- The urban area in Malta can accommodate current type installations to produce up to 133.7 GWhpa. For generating up to an additional 100 GWhpa, a rural area of up to 0.625 sqkm would be needed but only **sites having a minimal impact on the landscape** will be considered.
- Authorities should consider a **revision** of the current strategy.

Thank you for your attention

Federica Di Pietrantonio

federica.dipietrantonio@miema.org