

Πάφος Κύπρος

Paphos, Cyprus

Innovative Technologies for
Sustainable Mobility and Energy
Efficiency in Rural Contexts

Iakovos Yiannakkos
(Agriculture Scientist)

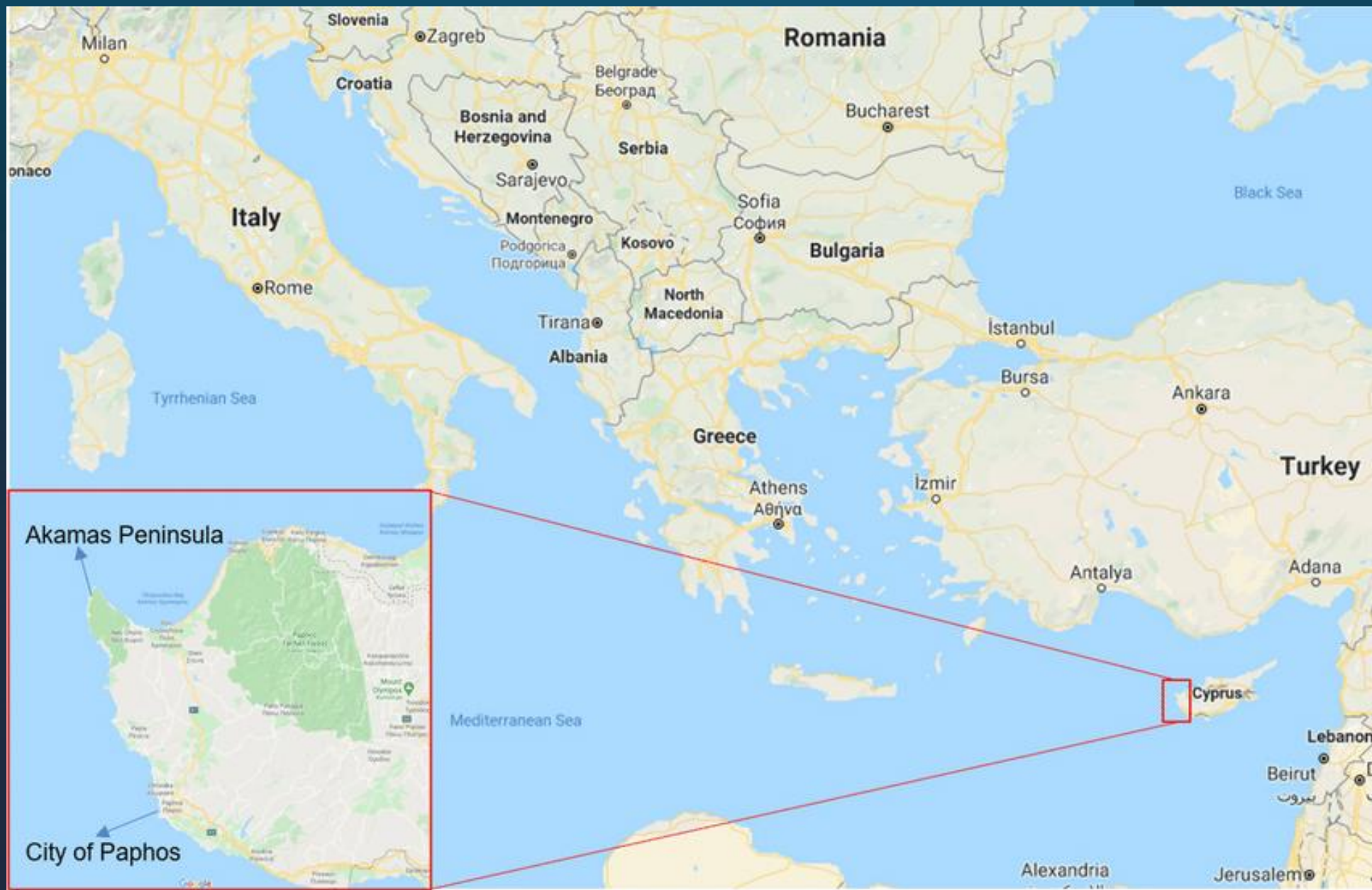
Development
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Co-funded by the
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- **Paphos** is a city located on the **southwestern coast of Cyprus**, an island country in the Eastern Mediterranean. It is both a **modern city** and an area rich in **historical and archaeological significance**.
- The wider Paphos District, which includes rural villages and smaller towns like Polis and Pegeia, has a total population of approximately 90,000–95,000 people.
- Paphos is known for the rich Historical and Cultural Heritage
 - UNESCO World Heritage Site: The Archaeological Park of Kato Paphos includes
 - Roman villas with mosaic floors
 - The Tombs of the Kings
 - Ancient theatres and fortresses
 - Birthplace of Aphrodite: According to Greek mythology, the goddess Aphrodite was born from the sea foam near Petra tou Romiou (Aphrodite's Rock), just outside Paphos.
- In recent years, Paphos has taken steps toward sustainable tourism, urban mobility, and energy efficiency, including the use of electric public transport and revitalized urban spaces.

Key Challenges in Mobility

Car Dependency

- **High reliance on private vehicles** due to limited public transportation options.
- This leads to **traffic congestion**, especially during peak tourist seasons, and **increased carbon emissions**.
- Walkability and cycling infrastructure are still developing and not widespread outside central areas.

Limited Public Transport Network

- Public transportation, especially **inter-municipal and rural routes**, remains infrequent and underdeveloped.
- Many rural communities in the Paphos district have **limited or no access** to reliable bus services.
- Lack of integration between transport modes (e.g. buses, bicycles, parking facilities).

Key Challenges in Mobility

Accessibility Issues

- Public transport and mobility services often **lack full accessibility** for people with disabilities, elderly populations, and parents with children.
- Rural and historic areas may have infrastructure that is not adapted to modern accessibility standards.

Seasonal Mobility Pressures

- Tourism creates seasonal spikes in transportation demand.

Infrastructure is often strained during summer months, especially in areas near beaches, cultural sites, and the airport.

Key Challenges in Energy Efficiency

Outdated Building Stock

- Many **residential and public buildings** are old and lack modern insulation or energy-saving systems.
- Heating and cooling demands are high due to the **Mediterranean climate**, leading to energy inefficiencies.

Low Adoption of Renewable Energy in Homes

- While Cyprus has made national progress with solar energy, **many homes and businesses in Paphos still rely on conventional electricity** and have not yet adopted **photovoltaics** or **solar thermal systems**.
- Barriers include **high upfront costs**, lack of awareness, and limited incentive schemes.

Insufficient Smart Energy Infrastructure

- Smart grids, energy monitoring systems, and building automation technologies are **not yet widespread**.
- Public facilities are gradually being upgraded, but **private sector adoption remains low**.

Some Sustainable Mobility Initiatives

1. Electric Minibus Service

In a significant step towards reducing carbon emissions and promoting eco-friendly transportation, Paphos Municipality introduced Cyprus's first electric minibus. This initiative serves as a model for sustainable urban mobility in island contexts, demonstrating that innovative solutions can be effectively implemented in small urban centers.

2. Sustainable Urban Mobility Plan (SUMP)

ANETPA has been instrumental in the development of the Sustainable Urban Mobility Plan for Paphos. This comprehensive plan aims to enhance the city's transportation infrastructure by integrating various modes of transport, promoting public transit, and reducing reliance on private vehicles. The plan emphasizes the importance of public consultations and stakeholder engagement to ensure that the mobility needs of all community members are met.



Some Energy Efficiency Practices



1. Energy Upgrading Initiatives

ANETPA has supported programs aimed at upgrading existing homes to improve energy efficiency. These initiatives include the installation of energy-efficient appliances, insulation, and renewable energy systems such as solar panels. By facilitating these upgrades, ANETPA helps residents reduce their energy consumption and lower utility costs.

2. Smart Water Management

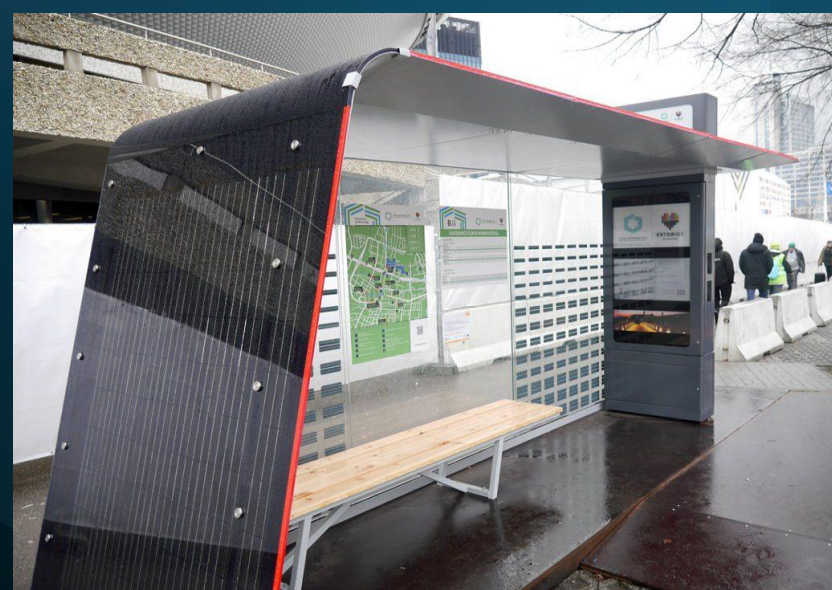
In collaboration with the Municipality of Paphos, ANETPA has been involved in the implementation of a Smart Water Management project. This system utilizes advanced technologies to monitor and manage water usage, aiming to reduce waste and ensure the sustainable use of water resources. The project aligns with the EU's Sustainable Development Goals, particularly in promoting responsible consumption and production.

Innovative Technologies for Paphos

Paphos has already taken several commendable steps toward sustainability, but there are still many **innovative technologies** that could further enhance its efforts in **mobility** and **energy efficiency**—especially within the unique context of being a **historic, tourist-heavy, and rural-urban island region**.

Practical, scalable, and innovative technologies that could be applied in Paphos:

- Micro-Mobility Solutions (e-bikes, e-scooters)
- Smart Traffic and Parking Systems
- Solar-Powered Smart Benches and Bus Stops
- Retrofitting Historic Buildings with Green Tech



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