



Contents

Circular Economy and Green Innovation in Cyprus	3
1. Introduction.....	3
2. Policy Framework.....	3
2.1 National Action Plan for Circular Economy (2021–2027)	3
2.2 Waste Management Strategies	4
2.3 Green Public Procurement (GPP).....	4

3. Investments and Key Projects	4
3.1 Government Investments.....	4
3.2 Private Sector Initiatives	4
3.3 Notable EU-Funded Projects	5
4. Organizations Championing Circular Economy in Cyprus	5
4.1 Cyprus Energy Agency (CEA)	5
4.2 Green Dot Cyprus.....	7
4.3 AKTI Project and Research Center	8
4.4 ACPELIA.....	10
5. Statistics and Achievements	14
6. Case Studies	14
6.1 Circular Business Models in the Hospitality Industry	14
6.2 Coastal Waste Management	15
6.3 Tiganokinisi Initiative	15
6.4 Solar Recycling Pilot Project in Rural Cyprus	16
6.5 Agri-Food Waste Valorization Project.....	17
Conclusion	17
7. Challenges and Future Directions.....	17
7.1 Challenges	17
7.2 Recommendations	17
8. Conclusion	18

Circular Economy and Green Innovation in Cyprus

1. Introduction

Cyprus, as part of the European Union, is committed to transitioning to a sustainable circular economy and adopting green innovation. These approaches address pressing environmental challenges while boosting economic growth and creating jobs. The island's shift from a linear "take-make-dispose" model to a circular system involves improving resource efficiency, reducing waste, and fostering innovation.



2. Policy Framework

2.1 National Action Plan for Circular Economy (2021–2027)

The plan prioritizes:

- Transitioning to sustainable consumption and production patterns.
- Introducing waste prevention measures and resource efficiency strategies.
- Supporting green innovation in business models and industrial practices.

2.2 Waste Management Strategies

Cyprus has implemented targeted strategies to meet EU waste directives:

- **Municipal Waste Management Plan (MWMP) 2022–2028:** Focuses on recycling, separate collection systems, and pay-as-you-throw (PAYT) schemes.
- **National Waste Prevention Programme (NWPP):** Promotes waste reduction through public awareness, eco-design, and policies supporting reuse and repair.



2.3 Green Public Procurement (GPP)

Cyprus integrates circular economy principles into procurement, encouraging sustainable practices in public tenders, including eco-taxes and incentives for green innovation.

3. Investments and Key Projects

3.1 Government Investments

- **Municipal Solid Waste Reduction Program:** EUR 25 million allocated for waste management reforms, particularly in coastal regions like Limassol and Paphos.
- **Reuse and Repair Centers:** EUR 4 million investment to establish centers for extending product lifecycles.
- **Green Kiosks Installation:** EUR 3.3 million to install kiosks promoting recycling in remote areas.

3.2 Private Sector Initiatives

- **Tiganokinisi (Frying Pan Movement):** Collects used cooking oils from households, schools and businesses to produce biodiesel, demonstrating a successful waste-to-energy model.



- **Hotels and Tourism Waste Projects:** Coastal hotels in Limassol and Paphos implemented recycling systems, reducing waste and raising awareness among tourists.

3.3 Notable EU-Funded Projects

- **LIFE UrbanProof:** Focuses on climate change adaptation in urban areas using green infrastructure and innovative practices.
- **BIOWASTE Project:** Develops advanced systems for organic waste recycling, turning food waste into valuable bio-products.

4. Organizations Championing Circular Economy in Cyprus

4.1 Cyprus Energy Agency (CEA)

The Cyprus Energy Agency (CEA) plays a pivotal role in promoting renewable energy, energy efficiency, and sustainable resource management in Cyprus. Through strategic partnerships, public education, and support for businesses, CEA fosters the transition toward a greener economy and society. Its efforts align with national and EU goals for reducing carbon emissions and advancing sustainability.



Key Initiatives and Examples

1. **Promotion of Renewable Energy Systems:**
 - CEA provides technical guidance and financial consultation to homeowners and businesses looking to install solar panels or wind turbines.
 - A flagship project is the **“PV for All” program**, which assists communities in adopting photovoltaic systems, particularly in rural areas where renewable energy uptake has traditionally been slower.
2. **Energy Efficiency in Public Buildings:**
 - CEA collaborated with municipalities in projects like **“Smart Buildings for Smart Cities”**, retrofitting public schools and municipal buildings with energy-efficient technologies such as LED lighting, improved insulation, and smart energy management systems.
 - The retrofitting of Nicosia’s municipal headquarters led to a 35% reduction in energy consumption, setting an example for other public institutions.
3. **Support for Green Businesses:**
 - The agency provides tailored support for businesses transitioning to energy-efficient practices.
 - An example is the partnership with hospitality companies in the **“Green Hotels” initiative**, where hotels are equipped with solar water heaters and

implement waste heat recovery systems, significantly reducing their carbon footprint.

4. Community Energy Projects:

- CEA spearheaded the development of **energy cooperatives**, where local communities jointly invest in and benefit from renewable energy installations.
- A notable case is the **“Paphos Energy Community,”** where residents pooled resources to establish a solar farm that now provides energy to over 500 households.

5. Public Education and Awareness Campaigns:

- CEA organizes annual events such as the **“Sustainable Energy Week”**, featuring workshops, exhibitions, and demonstrations on renewable energy technologies and practices.
- The **“Energy Smart Home” campaign** offers practical tips for households to reduce energy consumption, including energy-efficient appliance guides and DIY home insulation techniques.

6. Innovative EU-Funded Projects:

- CEA is an active participant in EU-funded programs like **“SCORES” (Smart Control of Renewable Energy Systems)**, testing innovative solutions for integrating renewable energy and storage systems into local grids.
- The **“LIFE UrbanProof” project** focused on developing climate adaptation strategies for urban areas in Cyprus, integrating energy efficiency into broader sustainability plans.

7. Support for Electric Mobility:

- The agency has been instrumental in promoting electric vehicles (EVs) through awareness campaigns, technical guidance, and lobbying for infrastructure development.
- A partnership with the Ministry of Transport resulted in the installation of over **50 EV charging stations** across the island, encouraging more drivers to switch to electric mobility.

8. Resource Efficiency Programs:

- CEA collaborates with industries to optimize resource use, particularly in water-intensive sectors like agriculture.
- For example, the **“Sustainable Irrigation Initiative”** assists farmers in implementing solar-powered irrigation systems, reducing both water and energy waste.

9. Statistics and Impact:

- Through its initiatives, CEA has contributed to a **25% increase in renewable energy usage** in Cyprus since 2015.
- Over 10,000 households and 500 businesses have directly benefited from energy efficiency consultations and renewable energy support programs provided by CEA.

By combining technical expertise with grassroots outreach, the Cyprus Energy Agency has become a cornerstone of the island’s sustainability efforts. Its diverse programs reflect a comprehensive approach to tackling climate change, reducing energy

dependency, and fostering a culture of resource efficiency among Cypriot communities and businesses.

4.2 Green Dot Cyprus

Green Dot Cyprus serves as the primary organization responsible for managing packaging waste recycling in the country. Its operations focus on collecting, sorting, and processing recyclable materials while actively promoting public awareness and education on waste reduction and recycling practices. Over the years, Green Dot Cyprus has implemented several impactful projects and campaigns that contribute significantly to Cyprus's sustainability goals.



Key Initiatives and Examples

1. Packaging Waste Management Program:

- Green Dot operates a **separation-at-source system** for recyclable materials, collecting paper, plastic, glass, and metal from households, businesses, and public spaces.
- The organization collaborates with over 40 municipalities and local councils across Cyprus to ensure wide coverage for recycling collection services.
- By 2023, Green Dot had established more than **10,000 recycling bins** in urban and rural areas, enabling citizens to recycle conveniently.

2. Eco-School Collaborations:

- Green Dot works closely with schools through its **“Green School” program**, integrating waste reduction and recycling education into curriculums.
- Examples include organizing workshops where students learn to upcycle waste materials into art or practical items, and competitions like **“Recycling Champions”** to encourage student participation in environmental efforts.

3. Awareness Campaigns and Public Outreach:

- The **“Recycle at Home” campaign** educated households on proper waste separation, providing guides and interactive tools for families to track their recycling habits.

- Community events like “**Recycling Festivals**” bring together families, schools, and businesses to participate in interactive recycling activities and learn about the importance of reducing waste.
- 4. **Partnerships with Businesses:**
 - Green Dot partners with companies to encourage **producer responsibility**, ensuring that businesses contribute to the recycling of the packaging materials they introduce into the market.
 - For example, partnerships with major retailers have led to the placement of recycling kiosks at shopping centers, where customers can deposit materials like batteries, electronics, and plastics.
- 5. **Glass Recycling Projects:**
 - A targeted program was launched to address the challenges of glass recycling in hospitality sectors, particularly bars and restaurants.
 - Collaboration with popular tourist municipalities like Ayia Napa resulted in a significant reduction of glass waste being sent to landfills, with dedicated bins and collection services provided for glass waste.
- 6. **Community Recycling Hubs:**
 - Green Dot established **community recycling parks** in areas like Nicosia and Limassol, where residents can bring hard-to-recycle items, including electronics, bulky waste, and hazardous materials, ensuring their safe processing.
- 7. **Innovative Projects and EU Collaborations:**
 - Green Dot Cyprus participated in the “**LIFE+ Green Waste**” program, a European initiative aimed at reducing biodegradable waste through composting. The program introduced composting facilities in suburban areas, allowing communities to convert organic waste into nutrient-rich soil.
- 8. **Statistics and Impact:**
 - In 2022, Green Dot reported that it had collected and processed over **100,000 tons** of packaging waste, diverting a significant portion of this material from landfills.
 - Recycling rates in Cyprus increased by 15% between 2018 and 2023, partly due to Green Dot’s persistent awareness and collection efforts.

Through its comprehensive programs and collaborations, Green Dot Cyprus not only facilitates the collection and processing of recyclable materials but also fosters a cultural shift toward sustainability among Cypriots. Its education and community-based initiatives have laid a strong foundation for sustainable waste management, aligning with the EU’s circular economy objectives.

4.3 AKTI Project and Research Center

AKTI Project and Research Center is at the forefront of environmental innovation in Cyprus, implementing impactful initiatives aimed at reducing marine waste, promoting circular economy principles, and supporting small businesses and coastal communities in their sustainability efforts.



Key Examples of AKTI's Initiatives

1. **Fishing for Litter Program:** This flagship initiative partners with local fishermen to collect marine debris during their fishing trips, preventing waste from being discarded back into the sea. Examples include:
 - Collaborations with coastal municipalities like Limassol and Larnaca to establish waste collection points at fishing harbors.
 - Organizing public awareness campaigns to highlight the importance of protecting marine ecosystems.
 - By 2023, the program had engaged over 150 fishermen and removed more than 30 tons of marine litter from Cypriot waters.
2. **“Zero Waste Beach” Project:**
 - This initiative encourages coastal businesses, particularly restaurants and cafes, to adopt waste-reducing practices.
 - AKTI introduced reusable packaging systems and provided training to staff on waste separation and composting.
 - Partnering with organizations like the Cyprus Sustainable Tourism Initiative (CSTI), the project has improved waste management in high-tourist areas like Ayia Napa and Protaras.
3. **Circular Economy Support for Small Businesses:**
 - AKTI works closely with small enterprises to integrate circular practices into their operations. For instance:
 - The **“Small Changes, Big Impact”** campaign focused on bakeries and cafes, helping them switch to biodegradable packaging and reduce food waste.

- Offering consulting services to agricultural businesses for utilizing organic waste to create compost and biogas.
4. **Coastal Cleanup Events:** AKTI has organized numerous cleanup campaigns along Cyprus's beaches and coastal areas. A notable example is the annual **International Coastal Cleanup Day**, where AKTI collaborates with schools, businesses, and local authorities to remove plastic waste and educate the public on environmental conservation.
 5. **Marine Waste Upcycling Projects:**
 - In partnership with designers and artists, AKTI launched initiatives like “**Art from Waste**”, where collected marine litter is transformed into art installations displayed in public spaces. This raises awareness about pollution while promoting creative reuse.
 6. **Environmental Education Programs:** AKTI engages schools and youth groups through hands-on workshops and field trips. For example:
 - The “**Youth for Seas**” program teaches students about marine ecosystems and sustainable fishing practices.
 - Interactive sessions on waste reduction and circular economy principles are conducted in partnership with the Ministry of Education.
 7. **Policy Advocacy:** AKTI plays a vital role in influencing national policies on waste management and sustainability. For instance:
 - Contributing to the drafting of Cyprus's **Marine Litter Action Plan** under the EU's Marine Strategy Framework Directive.
 - Advocating for legislation promoting single-use plastic reduction and sustainable packaging.

Through these initiatives, AKTI has established itself as a leading environmental organization in Cyprus, bridging the gap between policy, community action, and sustainable development. Its efforts not only tackle immediate environmental issues but also pave the way for systemic change in the way coastal communities and businesses approach sustainability.

4.4 ACPELIA

ACPELIA: Pioneering Sustainability and Green Innovation in Cyprus

ACPELIA (Active Cypriot Programs for European Learning Into Acceptance) is a dynamic organization dedicated to promoting sustainability, circular economy practices, and green innovation across Cyprus. Through its extensive network of partnerships with municipalities, NGOs, schools, and youth organizations, ACPELIA empowers communities to embrace environmental stewardship and foster green leadership. Their approach combines education, community engagement, and innovative solutions to create a lasting impact on the island's environmental and social well-being.



1. Environmental Education and Youth Empowerment

ACPELIA integrates non-formal education techniques to inspire and educate young people about environmental issues and green practices.

- **Eco-Youth Ambassadors Program:** A flagship initiative training young leaders in environmental advocacy, equipping them with skills to educate their peers on sustainability, waste reduction, and climate change.
- Collaborations with the **Pissouri Community Council** have led to targeted workshops focusing on marine litter and reducing single-use plastics, promoting local action among youth.

2. Promoting Circular Economy Practices

ACPELIA has spearheaded initiatives that embed circular economy principles into community life:

- **Youth Exchanges:** Projects like *Climate Changes As Fast As Fashion (CCAFAF)* and its sequel emphasize the environmental impact of the fashion industry, promoting sustainable practices and entrepreneurship.
- **Green Innovation and Circular Economy (GICE):** This project focuses on enhancing green entrepreneurship among young people while addressing environmental discrimination. Activities encourage participants to develop sustainable projects and solutions.

3. Community Recycling and Waste Management

Through partnerships with municipalities such as Limassol and Paphos, ACPELIA has launched community-driven recycling programs:

- **Recycling Hubs:** Establishing easily accessible recycling points in public spaces to encourage waste separation and collection.
- **Recycling for a Cause:** Proceeds from recycled materials are used to fund youth programs, merging environmental action with community development.

4. Green Innovation and Entrepreneurship

ACPELIA motivates communities to develop sustainable solutions through competitions and workshops:

- The **Circular Innovation Challenge** invites young innovators to create products using recycled materials, awarding funding for the most promising ideas.
- The **SOESOS** project promotes green entrepreneurship as a means to tackle youth unemployment and environmental degradation simultaneously.

5. Green Energy and Conservation Campaigns

Energy conservation is a cornerstone of ACPELIA's work:

- The **Green Schools for a Green Future** initiative retrofits schools with solar panels and energy-efficient technologies. Alongside infrastructure upgrades, students participate in workshops about renewable energy and energy-saving practices.

6. Mental Health and Nature-Based Initiatives

Recognizing the connection between environmental health and mental well-being, ACPELIA has developed projects that integrate mindfulness and eco-awareness:

- *Re-connect with Nature and Protecting the Environment for Inner Health (RECNEFIH)* emphasizes the importance of reconnecting with nature to promote mental health.
- *Re-establish Diversity and Inclusion in Environmental Locations (REDIEL)* combines outdoor activities with emotional awareness training, teaching participants that nature is inherently diverse and inclusive.



7. International Collaborations and New Initiatives

ACPELIA's international projects expand its influence while fostering cross-border collaboration:

- The upcoming *Sustainable Communities and ECO-Innovation (SUCOMINNO)* project will train youth workers and policymakers in green innovation, culminating in sustainable community projects in Cyprus and Poland.

- *Green Plan to Plant* brings together youth across Europe to engage in tree-planting activities and promote sustainable land-use practices.

Community Engagement and Events

- Annual public events, such as the **Green Living Festival**, provide platforms for families and communities to explore sustainable living practices through hands-on workshops, exhibitions, and discussions.
- Regular public challenges, such as designing eco-friendly solutions, motivate community members to contribute innovative ideas to sustainability efforts.

Collaboration and Partnerships

ACPELIA thrives on partnerships with key stakeholders:

- **AKTI Project and Research Center:** Joint campaigns reduce marine litter and promote circular economy practices.
- **Green Dot Cyprus:** Collaborative efforts improve household participation in waste recycling and environmental education campaigns.
- Municipal partnerships across Cyprus foster initiatives such as retrofitting public buildings with green technologies and implementing community-driven recycling schemes.

Webpages of the Environmental programs of ACPELIA

- <https://nofee.webnode.page/>
- <https://ccafaf.webnode.page/>
- <https://sites.google.com/view/soesos/home>
- <https://erasmusplus-ccafaf.webnode.com/>
- <https://reconnect-with-nature.webnode.co.uk/>
- <https://abeccol.webnode.co.uk/>
- <https://sucominno.webnode.page/>
- <https://gice.webnode.page/>
- <https://rediel.webnode.co.uk/>
- <https://ftrc-fair-trade.webnode.page/>
- <https://green-wardrobe1.webnode.page/>
- <https://grepla-pla.webnode.page/>

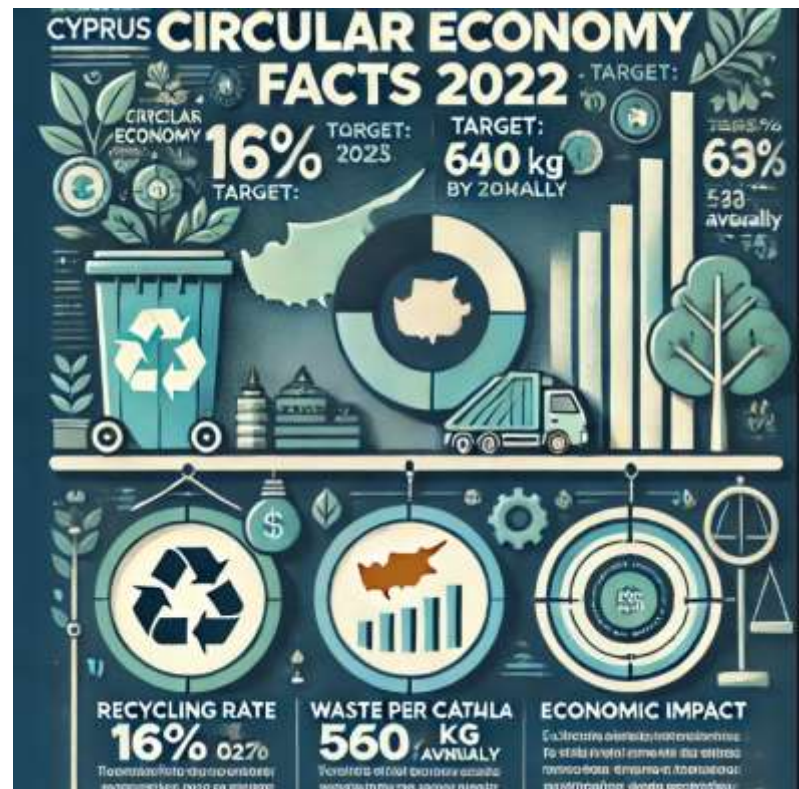
Conclusion

ACPELIA's initiatives combine education, innovation, and practical action to address pressing environmental challenges. By empowering youth, engaging communities, and collaborating with diverse partners, the organization has become a leader in advancing circular economy practices and green innovation in Cyprus. Through its work, ACPELIA

is not only shaping a more sustainable future for Cyprus but also setting a model for environmental leadership across Europe.

5. Statistics and Achievements

- **Recycling Rate:** As of 2022, Cyprus achieved a municipal waste recycling rate of 16%, with a target of 55% by 2025.
- **Waste Per Capita:** Cyprus generates approximately 640 kg of waste per capita annually, higher than the EU average, emphasizing the need for improved circular economy practices.
- **Economic Impact:** Circular economy activities, including repair and recycling, have created hundreds of jobs, particularly in the tourism and waste management sectors.



6. Case Studies

Cyprus has implemented various initiatives and projects that embody circular economy principles and green innovation. Below is an extended discussion of notable case studies, illustrating how these concepts are applied across different sectors.

6.1 Circular Business Models in the Hospitality Industry

Hotels in **Limassol** and **Paphos** have embraced circular economy principles to minimize waste and promote sustainability:

- **Atlantica Hotels Group:** Introduced waste segregation at source, separating plastics, glass, and organic materials. Partnering with local recycling facilities, the group has significantly reduced waste sent to landfills.
 - Their organic waste is processed into compost for local agricultural use, creating a closed-loop system.
 - The hotel chain also replaced single-use plastics with biodegradable alternatives, cutting plastic waste by 40%.
- **Amavi Hotel (Paphos):** Implemented **Pay-As-You-Throw (PAYT)** schemes for waste management, where guests are encouraged to sort and minimize waste.

The initiative, combined with staff training, has reduced their landfill contributions by 30%.

- **Elysium Hotel:** Participates in the **Travelife Sustainability Certification**, promoting energy efficiency and water conservation. The hotel collaborates with local farmers to recycle organic waste into animal feed and compost.

These initiatives not only enhance the sector's environmental footprint but also provide a model for sustainable tourism.

6.2 Coastal Waste Management

The "**Marine Litter Management Project**," coordinated by **AKTI Project and Research Center**, is a flagship example of community-driven sustainability:

- **Engagement with Local Fishers:**
 - Fishers from coastal municipalities like Larnaca and Paralimni are equipped with "**Fishing for Litter**" kits, allowing them to collect marine debris during fishing trips.
 - Over 20 tons of plastic waste were collected in 2022 alone, much of which was recycled into new products, including plastic pallets and construction materials.
- **Beach Cleanups and Public Awareness:**
 - The project organizes community beach cleanups, with thousands of volunteers participating annually. For example, the **Larnaca Beach Cleanup 2023** involved over 500 participants, collecting more than 2 tons of litter in a single day.
- **Collaboration with Schools:**
 - AKTI runs education programs like "**Clean Coasts, Clean Communities**", teaching students about the impact of plastic waste and circular practices to reduce pollution.

The initiative highlights the potential of community engagement and multi-stakeholder collaboration in achieving sustainable coastal waste management.

6.3 Tiganokinisi Initiative

The **Tiganokinisi Initiative** demonstrates the potential for circular economy principles to transform waste streams into valuable resources (<https://www.tiganokinisi.eu/>):

- **Nationwide Campaign:**
 - The initiative collects used cooking oil from households, restaurants, and hotels across Cyprus and processes it into biodiesel.

- By 2023, Tiganokinisi collected over **1.5 million liters** of cooking oil, reducing environmental pollution and generating renewable energy.
- **Partnerships and Outreach:**
 - Collaborations with schools, such as the **“Oil for Schools” program**, incentivize students to bring used cooking oil from home, with proceeds supporting school improvement projects.
 - Restaurants and catering services are incentivized through certifications recognizing their participation in the program.
- **Environmental Impact:**
 - The biodiesel produced powers public buses in cities like Nicosia and Limassol, reducing fossil fuel dependency and carbon emissions.
 - The initiative has also raised public awareness about the environmental hazards of improperly disposing of used oil.



6.4 Solar Recycling Pilot Project in Rural Cyprus

A pilot project in **Agros** and **Kalopanayiotis** aimed to integrate renewable energy with circular practices:

- **Photovoltaic-Powered Recycling Centers:**
 - Rural communities were equipped with solar-powered recycling stations for plastics, metals, and paper.
 - The stations include automated sorting systems that incentivize users with digital points redeemable for local products, creating a circular community economy.
- **Impact:**
 - The initiative resulted in a 50% increase in recycling rates in these villages within its first year.
 - The project serves as a model for scaling renewable energy-driven waste management systems in rural areas.

6.5 Agri-Food Waste Valorization Project

The **Agriculture Innovation Center (AIC)** in collaboration with the **Cyprus Institute** launched a project to valorize agri-food waste:

- **Project Highlights:**
 - Leftover citrus peels from farms in Limassol are converted into essential oils and animal feed additives.
 - Olive mill waste is processed into biochar, a carbon-rich material used for soil enhancement and water filtration.
- **Economic and Environmental Benefits:**
 - Farmers reported a 15% increase in income by selling processed waste products.
 - The project has reduced waste dumping in agricultural areas by 40%.

Conclusion

These case studies demonstrate Cyprus's growing commitment to integrating circular economy practices across industries. Through innovative projects, strong partnerships, and active community engagement, Cyprus serves as a model for small nations transitioning toward green innovation and sustainability. Each initiative underscores the potential of collaborative efforts to address environmental challenges while contributing to economic growth and resource conservation.

7. Challenges and Future Directions

7.1 Challenges

- **Low Recycling Participation:** Public engagement remains a hurdle, with limited household participation in waste separation.
- **Infrastructure Gaps:** Rural areas face challenges due to inadequate recycling facilities and collection systems.
- **Monitoring and Data Collection:** Limited data hampers the evaluation of circular economy progress.

7.2 Recommendations

- Expand education campaigns to raise awareness about circular practices.
- Increase investment in rural waste management infrastructure.

- Establish national monitoring frameworks with performance indicators to track progress.
- Strengthen partnerships between the government, NGOs, and private entities for innovation and implementation.

8. Conclusion

Cyprus is making notable progress toward adopting circular economy principles and green innovation. Through a combination of policy frameworks, investments, and collaborations, the island is addressing its waste management challenges while fostering sustainable economic growth. To maintain momentum, Cyprus must continue to engage its citizens, expand infrastructure, and embrace innovative practices.

For a sustainable future, collaboration among the government, private sector, and civil society will be crucial in making Cyprus a leader in circular economy practices within the Mediterranean region.

