



**Final Report Athens Circular  
Forum**

#Circular Greece

December 18, 2019

**Symbiosis – Living Circular**

Athens 2019

## The challenge of circular transformation for Greece

In April 2019, the Athens Circular Forum set the stage for an illuminating discussion on the state of the country's and Athens region's transition towards a circular and more sustainable economy. The timing of this event could not have been better. Following the triple elections in national, regional and local government level many new representatives assumed office.

Greece's institutions, together with progressive business and the public administration are tasked with the objective to deliver stable and equitable development in an economy that has been underperforming for more than a decade, but which has now stabilized and is recovering fast.

Yet the challenge at hand is unlike the economic challenges of the past. It requires organized societal transition to a more efficient and synergistic model of use and management of resources: natural, economic, ecological and above all human skill and capabilities.

Major trends have marked the rising need for adopting a new productive model for Greece. First is the realization of the effects of current modes of energy and material production on the planet's climate. Since 2016 with the Paris Agreement, cities, countries, businesses and civil society actors are leading the way to cleaner energy and leaner production systems. Greece is a signatory to the Paris Agreement and in par with other EU countries, is committed to achieving carbon neutrality by 2050. Second the global shift to a 'greener' version of capitalism and economic growth is accelerating adaptations within the policy, regulatory and business environment that will both enable and help foster inward investment, innovation and regional development. Third the post-crisis environment has led to polarized growth patterns among Greek regions, which necessitates new tools to enhance and balance the country's growth potential. An overhaul of current practices, economic activities and production

capabilities will have to be cognizant of the specificities of Greek space; foremost among them being a changing demography, the island and mountain geography and the rural-urban divide. Finally, the EU's changing priorities as reflected by decisions on the next Financial Framework and the new Commissions' mission statement suggest that the European Green Deal, circular economy, blue growth and the UN sustainable development goals framework will be at the core of the new tools and funding mechanisms.

For Greece and its cities and regions actively participating in this transition is a condition for survival and success in the coming decades, in terms of both economy and ecology.

Symbiosis has put together this Report with the aim to inform public debate, leading to decisions and the necessary policy implementations.



## 1. Conceptual background

What is Circular Economy? In general terms, circular economy is defined as the system that is formed through the transition from the current linear source-use-reject model of production and consumption, to a model where material resources are kept in circulation in the economic system for as long as possible.

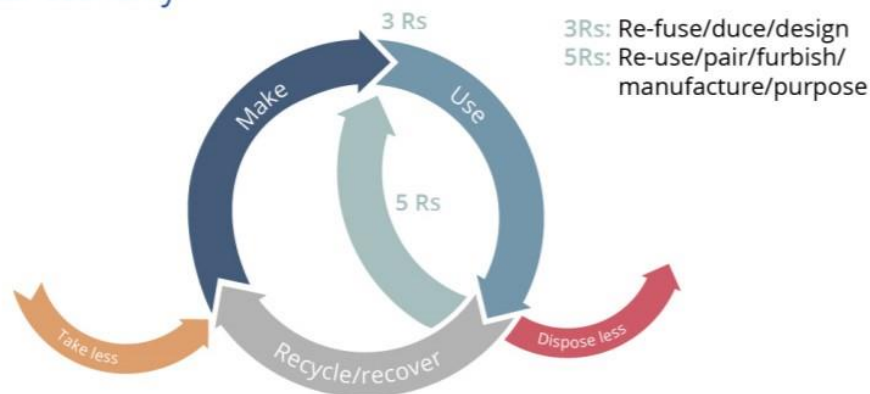
This model creates **three main advantages**:

- It ensures sustainability and prosperity in conditions of an ever-growing world population.
- It guarantees a healthier living environment for citizens and better preservation of natural systems.
- It provides business opportunities and employment opportunities through the creation of secondary purchases of material resources, while protecting the economy from the volatility of commodity markets, which is constantly increasing.

From a **linear economy**:



to a **circular economy**:



***The transition from a linear to a circular economy***

Source – *European Investment Bank*

Circular economy requires by its very nature a holistic approach. It refers not only to the reduction of waste, but to the development of new business models based on the maximisation of economic and ecological benefits from metabolic flows.

In a circular economy, using, sharing, borrowing (leasing), re-using (reuse), repairing (repair), reconstructing (remanufacture) and recycling play a much bigger role than is the case in today's economies.

Key components of a more circular economy include:

- The use of biotic resources and their conversion into food, nutrition, bio-products and bioenergy through industrial biotechnology. Which is also known as a bioeconomy.
- Increased use of renewable energy sources or energy from biomass either as solid fuel, or treated in liquid and gaseous form (biofluids and biogas).
- Enhanced business survival and positive externalities for society by avoiding loss of value and negative results in the commodity chain as a result of efficiency gains in resource use and successful development of alternative forms of energy.
- Broader societal benefits, such as local jobs, and enhances skills development.

### **The fundamental role of cities**

More than half of the World's population lives in cities. It is projected that this figure will increase to 66% in 2050. Cities are responsible for the production of 85% of global GDP and consume 75% of natural resources: the 2010 (Hyper) consumption of material resources in cities came to 40 billion tons, projected to double to 90 billion. Tons in 2050. Cities also produce 50% of global waste: in 2012, cities produced 1.3 billion. tons of waste per year worldwide, which will increase to 2.2 billion tonnes in 2025. Eventually, they consume the 2/3 of global Energy and cause 80% of

With the above figures in mind, urban areas are the ideal location to foster this transition to a circular economy. Because they combine economic activity, data availability, human skills, capital and resources. It is also in and around cities and intercity networks of all sizes, where future infrastructure investments will have to be concentrated.

The concentration of activities in a local scale combined with the possibility for quicker and more effective decisions makes the cities and local government the ideal agents of change in the circular economy,

through practical solutions, which will be a field of development and application of solutions for the country, but also internationally.

Waste streams in urban centres are short and proximate, so they can be analyzed and improved effectively, especially with tools such as Internet of things and smart city infrastructures.

Industrial Partnerships can create local value circuits and given short distances they can facilitate multiple exchanges of resources on a local scale.

Also electric and hydrogen infrastructure and mobility platforms such as electric cars, rentals and electric and hydrogen equipment are easier to test and implement in cities than on a larger scale and are obviously useful in congested and polluted cities.

### **Legislation has changed**

In 2015 the European Commission presented the Circular Economy package. This included the action plan for the circular economy and four draft waste legislation with revised targets for landfills, resource reuse and recycling.

It is expected that the continued implementation of circular economy actions in Europe will create new jobs, modernise the economy and industry, protect the environment and make growth sustainable in view of the worsening climate and biodiversity crisis.

In the new multiannual Financial Framework, the European Commission has woven the concept of circular economy into all future investment and financial instruments.

Circular transition is really going global. For example, China is making huge steps to adjust its economy to circular standards; given that it consumes more resources than all OECD countries. The concept of circular economy in China has already entered legislation in 2002. In July

2018 a memorandum of understanding between the EU and China was signed for cooperation in the circular economy, setting up important global collaborations.

**Greece adopted its National Strategy for the circular economy in December 2018**

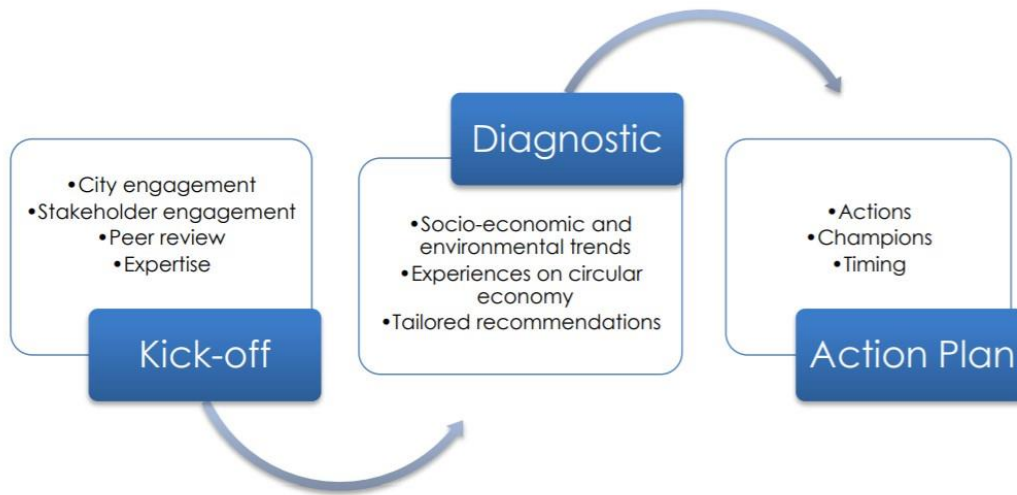
The plan analyses the need to transition to the circular economy. The aim is to improve the situation in the use of resources and energy efficiency, in trade, in technology, increase the use of secondary resources, focusing on the regional dimension and the potential for sustainable management of natural resources and waste.

The whole world is concerned with the transition to a more circular and sustainable economy. Wherever you look, there are unmet needs and potential. The necessity of transition is perceived by:

- Local administrative authorities;
- The international community,
- Regulatory Authorities,
- Citizens,
- Businesses,
- the other market actors

New technological solutions, new business models, new financial possibilities, new resource and energy management practices and the risk mitigation of climate change impacts create conditions for the activation of all involved in this transition, in order to achieve lasting and inclusive benefits to society.

**The citizen-centred contribution to this transition is the core mission of Symbiosis.**



Source: OECD

## 2. The Athens Circular Forum in brief

The circular economy concerns the transition from the current linear model of the collection-use-disposal of materials in production and consumption, to a model where material and energy resources are kept in circulation within the economic system for the longest manageable period.

The focus of this first Athens Circular Forum was on understanding and fostering the transition to a more circular economy. Bringing together a varied group of stakeholders, policy makers, civil society leaders and academic experts the event was one of the first to discuss specifically the role of cities and the Athens area in the circular transition.

Organized by the independent Citizens' organisation Symbiosis-Living the event took place in 18 and 19 April at the Hypatia mansion in Athens, itself a heritage building and symbolic space at a heart of the Athenian metropolis, which resonates with the need for preservation of resources and revitalisation of heritage.

The meeting served to underline that Athens and Attica, in particular, are the main urban agglomeration in the country with the appropriate

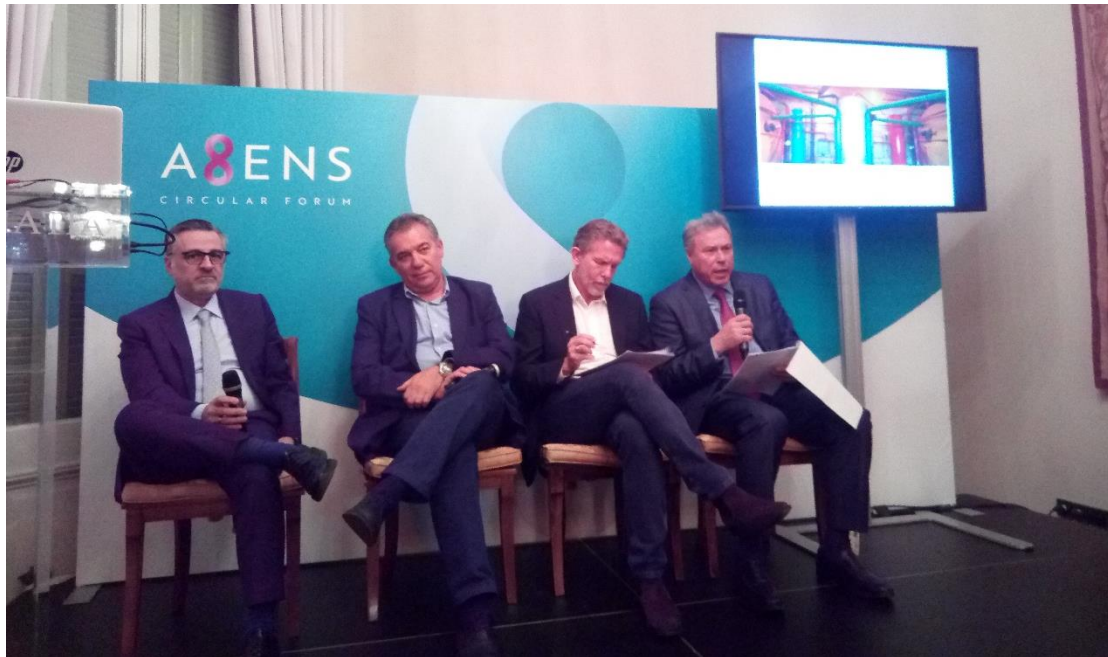


scale, human resources and financial capabilities to serve as a focal point for Greece and which can become a global example for integration of circular practices.

Through 8 panels and round table discussions, 34 esteemed professionals, scientists, analysts, MPs, representatives of non-profit organizations, managers, executives and representatives of enterprises and environmental management bodies shared ideas and proposals about how to accelerate and deepen the circular transformation of the Greek economy.

The meeting included speeches by the cabinet minister of Environment Minister, the mayor of Athens, by the former Ministers, Mr. G. Maniatis, the mayors of the Athens region, representatives of civil society, the Economic and Social Committee Chairman Mr. G. Vernicos, local government leaders , Business(Mr. Kofinakos Storm Harbour LLP) and leading academics in the field of environmental economica and technological transitions (Professor. F. Kountouri AUEB, Professor A.Kokosis NTUA, Professor M. Lekakou University of the Aegean), solid waste management bodies (Mrs Skiadi, Region of Attica) and startups focusing on the introduction of circular operation and resource management practices in cities, through the Adoption of circular economy standards.

The transition towards a more circular economy requires analytical tools such as market studies and the implementation of ecological standards throughout the country, with more rational production and consumption, which can effectively support local development, through collaboration and the forging of new synergies.



For Greece , the transition to a circular economy constitutes a major challenge that is being addressed by a modernizing institutional framework for the circular economy (see National Strategy for Circular Economy) that the country has put in place, while newer legal tools include the recent positive development in the direction of adapting the country to a higher level of resource management by introducing a circular economy tax on the volume of non-sorted waste.

Additional possibilities are created by the new EU policy framework for circular economy transition. Greece needs to speed up in the adoption of circular measures. The upcoming EU programming period 2021-2027 will see the end of many of the old funding categories of cohesion policy. EU priorities and attached funding are shifting to sustainability. A circular economy 2.0 package is going to form the central part of the European Green New Deal. It is thus imperative for Greek administration and business leaders to find ways to come up with mature plans for investment and economic reconstruction in alliance with wider policy frameworks.

While the National Strategy on Circular Economy is sufficiently broad and ambitious it still lacks a roadmap for implementation and the necessary arrangements for limiting the volume of waste through prevention, separate collection and full enforcement of a burial tax and polluter pays principles such as pay as you throw.

New enterprise formation and job creation in the field of circular economy and green business can be supported by the financial opportunities of the forthcoming European Policy framework and specific steps, such as the creation of a circular economy fund.

Greek industry has shown several good practices of adoption of circular standards and new product development. Examples includes product alternatives to single use plastics, in urban infrastructure and water management, circular building upgrade practices and modern investment Tools. Enhancing industry potential will require the formation of a business hub for circular startup operations.

Further efforts to accelerate circular transformation include the drafting of a manifesto for circular Cities in Greece, and ongoing monitoring of progress.

### 3. Towards a strategic plan for a circular economy in Greece

Cities and regions across Europe are leading the way in ecological and circular transformations. Being close to citizens, having better understanding of material and energy needs together with local circumstances make cities natural leaders in achieving positive change.

Greek cities have taken steps to improve their resource and energy efficiency through some infrastructural funding and energy efficiency programs. At a European level, some cities have signed the covenant of mayors, with advanced commitments on climate and energy,

though cities and municipal authorities must show more ambition and dedication to achieving climate mitigation and sustainable resource management objectives.

A key necessary step to empowering cities is to enable Strategic Planning for the Development of Actions for a More Circular Economy for municipalities and cities.

It is in accordance with national priorities and commitments to invest in cities and rural areas, however neither the necessary funding nor the administrative and governance capacity are sufficient to achieve the necessary transformations.

Urban adaptation plans should form part of new policy developments to achieve a more circular and sustainable economy. The Athens Circular Forum suggested four basic strategic areas for action by local government.

- An analysis of the current situation and then a proposal for adaptation to more cyclical standards at all levels of operation of a municipality, internal operation, environmental actions within an urban center and the urban region.
- Diagnosis and management of development potential by investing in a more cyclical economy.
- Redesign and adaptation of local productive relations based on the principles of cyclical economy, prevention, efficiency and reuse of resources (consumer goods, water, energy).
- Possibilities to stimulate local employment in forms of social and cooperative economy in the cyclical economy.

#### 4. Key components of a circular economy plan

In order for a circular economy plan to work several key aspects of a Plan should be put together and effectively communicated among the relevant urban/local stakeholders.

Of course the ideal in planning is to have societal and actor commitments that will evolve in ambition as the plan moves into implementation, leading to a dynamic process, which leads to new aims and objectives for circular transition, and positive pressure and momentum building up.

- Basic definitions and conceptual framework

At the very minimum central ideas on resource efficiency ought to be discussed with participants in the planning platform. This can draw from national and EU plans and priorities but can also invite participants to bring up their own examples of understanding circular economy. Mayors from Attica shared their experience of democratic debate and reflected on the crucial role in enabling positive change at local level.

- Institutional framework, capabilities provided

A detailed mapping of capacities, institutional regulations and capabilities of key agencies and people is necessary to enable a basic level of continuity and steering for the process, either by external coordination or by peer agreement.

- A guide to compiling a diagnosis of the local situation regarding resource use

Participants in the Athens Circular Forum identified also looking back in time, e.g. in self-sufficiency practices, traditional practices and material cultures are important to inform societal transformation to circularity.

- Incorporating material resources management practices from Greece and internationally

Often local agents of change towards circular practices lack sufficient information on good practices, opportunities for funding and collaborative projects, or even the simple know how on forming synergistic partnerships on natural resources use such as water, use of pasture lands etc.

It's critical to have also an analytical capacity to identify technological trends with relation to standards of circular economy that are worth following for local firms, and policy actors.

- Suggestions for adapting the organization's operation by introducing more cyclical standards

Local governments must come up with their own commitments to making their activities more circular, thus setting an example to the rest of local society.

- **Proposals for actions in the urban economy:**

- o **Transport and sustainable mobility**

- o EU policy favours SUMP (Sustainable Urban Mobility Plans) yet the situation concerning sustainable mobility needs considerable improvement.

- o **Resource reuse and nature-based solutions**

- o Identifying potential for reusing resources is key to the success of the plan. Equally NBS can provide areas of solution and even attract new investment.

- o **Urban Solid Waste Management**

- o Solid waste management is a main responsibility of local government with some shared partnership with recycling companies. Many of the speakers in ACF reflected on the bad record of the country and urban centres in managing solid waste and reducing landfilling.

- o **Innovation Management, Encouragement of Partnerships and Business Creation**

- o Innovation is absolutely key to achieving change in the current resource management system. Symbiotic businesses, partnerships and production relations can emerge out of a clear

mapping of supply flows at a local level or even across the country. Speakers at ACF introduced tools and techniques to analyse this potential.

### **o Management of building stock**

Management of the existing and aging building stock is crucial in achieving circular economy objectives. Buildings require upgrading to function in a carbon neutral manner and to enable better living and work conditions in changing climate situations. Investment in district heating and cooling was put as a suggestion that has had limited successes in Greece but shows potential in smaller and larger settlements. ACF showed examples of preservation of listed and heritage sites and districts in Greek cities that are potential models for reuse of old infrastructure.

### **o Management of emissions of gaseous pollutants and carbonization**

All major polluters and carbon emitters in a local area have to commit to achieving net zero emissions at the earliest possible.

### **o Energy flow management**

The design of the electricity grid, while it permits certain patterns of energy consumption is also limiting. There are areas in rural regions that are still unconnected and face extreme energy costs, frequently overlapping with areas of poverty. It is important to plan for those people too. Consider for instance their energy needs, whether their requirements can be met with local, carbon neutral and sustainable resources use and suggest a clear plan to address this.

## **Proposals for Marketing and Management of the Most Cyclical Economy**

- Financing tools and incentives to develop a more cyclical economy

During the Athens Circular Forum presenters introduced a platform for funding circular transformation in small businesses. The Sporos platform attempts to address this market area with finance and consultancy services.

With regard to the creation of proper incentive structures that will catalyze transition several suggestions were made (competitions, reward structures and implementation of pay as you throw principles in households and businesses).

- Suggestions for further study

Speakers at ACF outlined a national market study on circularity in Greece. Results of an opinion study are very promising on the awareness of the importance of the trend for the success

## 5. Future steps for Symbiosis' development

- Organizational Platform / Secretariat

Participants in the ACF expressed enthusiasm in the forum and wished for a continuing activity and means of engagement. A permanent organizational/digital platform was believed necessary to aid communication.

- Supporter Network / Members

Symbiosis, drawing from the success of ACF announced the formation of a support network for Circular Members and Friends. A Circular café or frequent meetings with preregistration for participants and supporters will be hosted at regular intervals to maintain momentum.

- Preparatory conference (closed) for a big event.



The fragmented situation in implementing circular strategies, points to the need of enabling and facilitating productive dialogue among the key actors.

- Facilitated workshops by theme. a serious job of that.

Symbiosis is looking to host facilitated workshops, where key experts will discuss the approach to CE issues with interested participants.

- Local workshops in the main cities.

Workshops in the main cities is something that has been done by administrations and civil society organisations, on their own initiative. Continuity and participation must be ensured.

- Working Group on Training of Cycle Cities Manifesto

Symbiosis established a working group that works on a circular economy manifesto.

- Expert panels (sector by sector and crosscutting).

Symbiosis has put together 8 expert panels, 7 sectoral and one crosscutting to enhance visibility and facilitate the sharing of expert knowledge on CE.

## 6. Conclusion

The Athens Circular Forum provided a neutral space for experts, businesses and wider interested publics to come together and discuss about the circular future of our cities and regions.

The meetings, panel discussions and interventions produced insights on how to enable effective local planning on the adoption of CE, evaluate the status of industrial adoption of CE, identify areas of opportunity and address major weaknesses in the planning and economic system.

Symbiosis announced an ambitious plan to act as a societal facilitator of the Circular Economy transition in the country and the main cities.

# About Symbiosis – Living Circular

Symbiosis- Living Circular is a citizen initiative which aims at accelerating the transition to a more circular and sustainable economy through resource efficiency, avoiding waste, preserving biodiversity, sustainable utilization of natural capital and urban metabolism and ecosystem services, together with adoption of the most advanced environmental technology and protection standards.

The specific objectives to support the above vision are to:

- a. **Establish** partnership and cooperation with all groups, bodies and collectives involved in the ecological transformation in Greece and corresponding organizations in the rest of the world.
- b. **Demonstrate** the potential of a circular, sustainable and participatory transformation of economic life, more ethical production and consumption, and urban coexistence.
- c. **Animate** local circular redesign initiatives, i.e. support collective, collaborative efforts to develop sustainable materials and energy resource management strategies at city and functional urban level.
- d. **Advocate** for the adoption and implementation of advanced environmental management systems together with compliance with the commitments of the European Union environmental acquis and international environmental law, as well as for the adoption of best practices of environmental protection and management.

The realization of the above objectives shall be achieved within three interrelated cycles of action:

**The first cycle** concerns the empowerment and social integration of cyclical potential in the economy. To this end, the initiative seeks to encourage the networking of all groups of citizens and social economy actors involved in cyclical transformation processes (in cities, industry,

various ecosystem services) through the establishment of a single platform for communication and mutual support at country level. The initial effort will take place in Athens. But the goal is to cover the whole country, and that, in addition to the country capital that can be developed into a model, there is untapped and unique potential across the country.

Specific areas that can demonstrate the potential for sustainable transition are through the sustainable management of urban resource flows, including

- urban upgrading,
- saving and ecological conversion to mobility, building stock,
- energy upgrades,
- circular trade and services,
- emphasis on prevention, avoidance and design out of waste production in the consumer areas.
- circular water and biomass management, in forestry, sustainable management of mountain ecosystems, agriculture, but also elsewhere.

**The second cycle** attempts to create synergies and partnerships in key areas of the economy. This stage will focus on creating dynamic symbiotic material resource management relationships centered on industry, research and manufacturing in all existing industrial, agricultural and manufacturing processes.

Production, either primary or manufacturing, can contribute to a new strategic orientation, which should be strengthened through the investment tools of industry, the State and Local Authorities, the European Union and the domestic market.

Specific actions and workshops will be planned for the above and the idea of creating a natural and digital hub of circularity and eco-business in partnership with Sporos platform and other actors.

It will support the development of local projects for the transition to a more viable and cyclical economy conducive to the activation and responsibility of the producer and the citizen-consumer.

**The third cycle** focuses on the creation of focus by category of territorial units with the aim of catalyzing the emergence a new production pattern for our country, which remains inclusive, dependencies and underdevelopment, with the best possible exploitation of the possibilities.

- It will include the whole of the maritime space as a field of development of the cyclic economy and blue (bio) economy, the land, mountain and rural area.
- It will set in motion a strategy implementation process that will deepen and at the same time expand the synergy potential.

### **The Manifesto**

With the completion of the Forum, project team was set up to draw up a Declaration of Objectives, a Manifesto for circular cities in Greece.

The Manifesto will serve as a compass in implementing the necessary changes, together with an impartial support and monitoring mechanism.

### **The Circular Friends Network**

A network of supporters will be set up to support the actions.

### **Links for further Reading**

1. European Investment Bank – 15 Circular Steps for Cities
2. World Economic Forum-Circular Economy in Cities White Paper
3. European Parliament Research Service – Circular Economy Topical Digest
4. OECD-The Economics and Governance of Circular Economy in Cities
5. Ellen MacArthur Foundation – Circular Economy in Cities Project Guide
6. Greece – National Strategy on Circular Economy