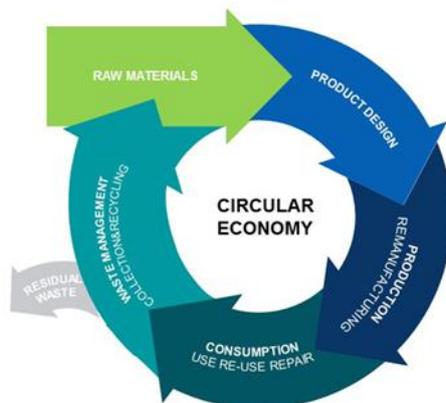




Hellenic Republic
Ministry of Environment & Energy

NATIONAL CIRCULAR ECONOMY STRATEGY



DECEMBER 2018



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GENERAL INFORMATION

Circular Economy is **both an opportunity and a need** for Greece. It is part of the relevant European strategy - which is developing rapidly - and corresponds to the features of the Greek economy. Circular Economy is a major and imperative necessity because Greece is lagging behind significantly, its available resources are limited and the country is characterised by particular geographical aspects (e.g. insularity, remote - mountainous areas).

Circular economy can play a catalytic role for **productive reconstruction** and has a clear regional dimension. It is based on the rational use of resources, the concept of recycling-reuse and the industrial symbiosis model. It aims at and encourages the use of secondary materials and waste as productive resources and useful materials, attributing a sustainable dimension to the productive model.

Our country has great potential for implementing this productive/economic model for numerous reasons, such as:

- Natural resources available and untapped secondary resources and waste.
- Scientific workforce and expertise as well as productive tradition and know-how in technical trades.
- A primary sector with growth potential that requires modernisation and reduction of production costs.
- Low indices of resource and energy productivity (as well as energy performance).
- A strategic framework available by the EU and available financing tools.

The significant advantages of circular economy are the high added value of corresponding investments due to their frequent knowledge intensity and the low cost of raw materials, the absorption/employment of young professionals, and its compatibility with small and medium-sized entrepreneurship and the social economy.

Circular economy stands in full contrast with the unorthodox and short-sighted Greek economic model prevalent until 2015. It refers to the actual product economy, it reinforces the primary and secondary sectors of the economy, it is supported by the economy of knowledge and specialisation, it generates high added value, it utilises and respects natural and environmental resources, it reduces dependence on imports, it improves the trade balance, it creates jobs, it adapts to all economic scales, it does not always require initial capital, it improves resource and energy productivity indices, and it is fully compatible with small and medium-sized entrepreneurship and the social economy.



1. CIRCULAR ECONOMY IN THE GREEK PRODUCTIVE SYSTEM

The circular economy model can be easily adapted to the Greek economy due to the multitude of opportunities and the potential for using the country's resources, the knowledge and specialisation of young Greek professionals, as well as the changes currently taking place in our country with respect to the economy and growth in general and the waste management industry in particular.

The completion of Regional Planning/Plans, the commencement of construction of plants to process mixed waste as well as pure streams (e.g. organic), the utilisation of RDF in the Cement Industry and Compost in agricultural production are indicative areas of the circular economy where parallel actions involving regulatory adjustments and specifications, the development of new and youth entrepreneurship, financing, environmental industry and cluster organisation, etc. are necessary.

The crisis our country has been experiencing in recent years, unemployment - and youth unemployment in particular - and underdevelopment create more opportunities for Circular Economy. The lack of available funds to buy raw materials, the flexibility of SMEs and social enterprises, the need to provide employment for young professionals, combined with the obligations of environmental legislation are conducive to recycling and reuse initiatives.

Circular economy in Greece can lead to a qualitative leap in the economy that will be tantamount to a growth transformation. It can create new jobs, support small and medium-sized entrepreneurship, creates new trades and foments the social economy, which is still under-developed in Greece.

Further advantages are the decentralisation of manufacturing as a result of reuse and recycling, while it is also compatible with/friendly to the Greek productive web, which is characterised by the small scale of its businesses. The circular economy supports competitiveness and sustainability of companies, as it secures cheap raw materials, deals with the imminent rise in the price of limited raw materials and helps curtail costs in various industries. Additionally, it creates new vocational and entrepreneurial material with actual products rather than services, while the conversion of consumers into users leads to the adoption of consumer trends oriented towards environmentally friendly products without underestimating the achievement of safe solutions in waste disposal, thus staying clear of EU fines.

The aim of the National Strategy is to accelerate circular economy actions and unlock growth potential. Recognising the benefits of circular economy, the inter-sectorial character of many of its actions and the institutional involvement inherent in its promotion, inter-ministerial coordination and the formulation of public policy on the matter were selected.

The basic contents of the public policy on circular economy are:

- 1. Financing tools**
- 2. Planning and enactment of a regulatory framework and rules, as well as removal of bureaucratic obstacles**
- 3. Connection of small and medium-sized entrepreneurship and social economy to technological innovation and the development and support of pilot/demonstration actions of circular economy**
- 4. Improvement of governance and networking, and acceleration of relevant procedures**

Sectors where public policy actions are required could include the following:

- ✓ Launching a series of institutional interventions that will reinforce circular economy, modular planning and open innovations;



- ✓ Setting priorities on the basis of economic, social, and environmental criteria; Defining indicators to assess the circular economy model;
- ✓ Facilitating circular economy and industrial symbiosis entrepreneurial initiatives (administrative cost curtailment, public procurement premiums, eco-industrial parks, establishment of an appropriate regulatory framework and adjustment of the existing one);
- ✓ Smart financing tools with aids and tax-reliefs;
- ✓ Utilising public investments, the NSRF, the Investment Bank, the Juncker package and other Funds and resources;
- ✓ Enacting open licences, promotion of open technologies, utilisation of open innovation products - particularly in academic institutions and public administration;
- ✓ Establishing specifications;
- ✓ Creating data bases and use of information for defining indicators to assess circular economy in various sectors;
- ✓ Incentives for developing social entrepreneurship, synergies and social economy in sectors of resource and material reuse (eco-industrial clusters, patent pools);
- ✓ Policies facilitating the establishment of 'smart factory' plants, which will be innovative, applying high technology, green, modular and, probably digitised;
- ✓ Communicative strategy to raise citizens' awareness along with the provision of incentives.

The National Strategy for Circular Economy creates multiple economic, environmental and social benefits and must be adopted as public policy.

In Greece, a country facing long-term recession, brain drain and lost professional potential, and inability to implement innovative technologies, the aim of Fair and Sustainable Development is compatible with aspirations to redesign products and procedures, to extend the life-span, reparability and recyclability of materials, to ensure that everything is considered a valuable resource during the design and processing phases.



2. COMPATIBILITY WITH THE DEVELOPMENTAL PLAN

The strategy of secondary sector productive restructuring in Greece will either be founded on the current trend of circular economy or will confront new, mid-term impasses, facing the impact of the depletion of its natural resources, of rising raw material prices and of the environmental impact of the current industrial model.

Furthermore, a transition to circular economy provides comparative **competitive advantages** and it is **friendlier to the already existing structure of the Greek** productive web, which is characterised by the **small scale of its enterprises**.

It reinforces the prospects for long-term **viability** and **competitiveness** of the economy, since it tackles the imminent significant increase in the price of limited raw materials and helps save Industrial costs.

It helps **saving scarce raw materials** for a longer period of time.

It provides **new jobs** and adopts consumer trends towards environmentally friendly products.

Innovative forms of consumption may become an industry where new entrepreneurial opportunities will arise during the period of transition to circular economy, e.g. commonly used infrastructure (**sharing and cooperative economy**) and increased use of digital platforms.

The transition from a linear to a circular growth model comprises a qualitative leap and a developmental transformation. Local jobs and opportunities for social inclusion are created. The transition to circular economy creates added value for investment with economically efficient measures, leads to the reduction of greenhouse gas emissions and curtails dependence on imported raw materials. It is closely related to the key EU priorities on employment and growth, social economy and industrial innovation, while it generates new knowledge, technology and vocational skills, thus improving competitiveness.

There are four additional indirect and parallel benefits:

- a) The Development of **small and medium-sized entrepreneurship**, particularly in the sectors of reuse preparation, repairs and maintenance.
- b) The **Creation of new trades** to implement such structural reforms.
- c) The dissemination, maturity and **spin-off of technologies** to be implemented and used by young professionals and employees will be an additional benefit for the country.
- d) The **development of the social economy**, since significant human potential could be activated, producing wealth through social economy and disposing additional resources to set up social cooperative enterprises next to productive plants.



3. ACTIONS BY MINISTRIES TO DATE and COORDINATION POTENTIAL

In the context of preparing public policy, there has been an initial mapping of actions undertaken by Ministries, which could be used in the implementation of Circular Economy strategies. This listing is presented below, without prioritisation or classification, since its completion is pending; it includes:

(a) Research and innovation, GSRT [Gen. Sec. R& D] & NSRF Actions: 39 Integrated Research Proposals for the 2016-17 two-year period; There are two important actions in progress:

- Electronic platform of secondary materials at the Balkan level (INTERREG) at the initiative of EDSNA [Association of Municipalities in the Attica Region – Solid Waste Management] and the participation of the Ministry of Environment and Energy;
- Environmental and Circular Economy Park of the Municipality of Heraklion (UIA) at the initiative of ESDAK [Association of Solid Waste Management of Crete] ;

(b) An inter-Ministerial Committee on Green Public Contracts: It was established on 13.6.2017 in order to draft an Action Plan to promote Green Public Contracts and submit proposals for planning a national policy within eighteen (18) months of its operation onset. The National Action Plan is approved by a Joint Ministerial Decision of the Minister of Economy and Development and the Minister of Environment and Energy. There is a similar proposal, prepared by a previous committee, for ‘greening’ 18 product groups and a study-proposal for a National Action Plan;

(c) A mixed inter-ministerial Working Group titled ‘Industry Forum’, established on 2.2.2016. The conclusions and proposals make an explicit reference-proposal in favour of promoting circular economy in manufacturing through the ‘circular economy’ model, which guides industrial entrepreneurship towards new productive operation models strongly characterised by innovation, environmental conservation and rational use of energy resources;

(d) A mixed inter-ministerial Working Group titled “Agro-nutrition, Manufacturing, Tourism” (16.9.2016);

(e) A mixed Group of ELOT [Hellenic Standardisation Organisation] Experts on “The Environment and Circular Economy” to effectively use international standards and to develop national standards concerning the environment, waste and circular economy, monitoring-participating in International & European standardisation activities and recording domestic needs for models to help select standards of Greek interest (27.7.2017);

(g) An inter-ministerial Group for the prevention of food waste and the creation of waste from food residues (27.9.2017);

(h) A partnership on Circular Economy (EU Urban Agenda), with the participation of 6 major urban centres (Oslo, The Hague, Prato, Porto, Kaunas and Flanders), 4 states (Finland, Poland, Slovenia, Greece), the European Commission (DG REGIO, ENV, CLIMA, RTD, GROW, etc.) and some organisations (CEMR, EUROCITIES, URBACT and EIB); the aim are the policies of Circular Economy in Urban Centres. The Greek working team includes participants from the Ministries of Environment and Energy, Shipping and Insular Policy, Tourism, and the General Secretariat for Industry, under the coordination of the Ministry of Economy and Development (Special Service for Strategy, Planning and Evaluation – EYSSA).



(I) Finally, at the European level, in the context of Circular Economy, a Directive packet has been approved concerning the new institutional framework on Waste¹, while the new Fertiliser Regulation is at the stage of consultation with technical committees and political instruments.

The inter-ministerial coordination issues which have been identified during the KYSOIP [Governmental Council on Economic Policy] discussion and during the public policy preparation phase:

- Institutional issues
 - Indicators of ‘circularity’ – parameterisation/customisation, goal establishment and monitoring
 - Green Public Contracts
- Sectorial Policies
 - Secondary fuels
 - Fertilisers and bio-waste Collection and use of organic residues as fertilisers
 - Prevention of Food waste and recycling
 - Construction using secondary materials
 - Water re-usage Promotion of water collection infrastructure in arid areas
 - Industrial Symbiosis (use of industrial by-products)
 - Insularity & Transportation of secondary materials
- Intervention tools
 - Funding/Subsidies, tax relief, financial incentives
 - SME reuse Environment
 - Urban Waste recycling and small-scale entrepreneurship/K.AL.O [Social and Solidarity Economy]
 - Institutional and Economic Support/Aid for secondary material market
 - Supervision of the implementation of existing institutional regulations for the management of waste and residues.

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Following up on the Decision of the Government Council for Economic Policy (KYSOIP), the 2018-2019 National Operational Plan on Circular Economy entered the phase of public dialogue. Important Social agencies and citizens participated in the consultation through meetings, conferences, and letters, as well as through Open Government (openGov).

- Special meetings of the Economic and Social Council and the Central Union of Hellenic Chambers of Commerce and Industry were organised, while at numerous conferences and day meetings, proposals were drafted and submitted (SEV-Hellenic Federation of Enterprises, EEDSA-Hellenic Solid Waste Management Association, FoDSA (Solid Waste Management Body), Bioeconomy, Insularity, EOAN-Hellenic Recycling Agency, KEDE- Central Union of Municipalities of Greece, ESDAC- Association of Solid Waste Management of Crete, Ecocity).

¹ Directives 2018/849/EU, 2018/850/EU, 2018/851/EU, 2018/852/EU, 2018/853/EU.



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- An ad hoc debate session was held in parliament (28/6).
 - At the same time, there were various initiatives (events, conferences, day-meetings, special meetings), which were used by us, since we consistently participated in them, to further enrich the Action Plan and the discussion of it.
 - Finally, following the special meeting sessions of the Executive Committee and the Plenary of the Economic and Social Council of Greece (O.K.E.) its official Opinion was formulated (attached).
 - Public consultation indicated a general consensus on the axes and priorities of the National Strategy and valuable contributions were made that enriched it and led to further processing of the text produced.

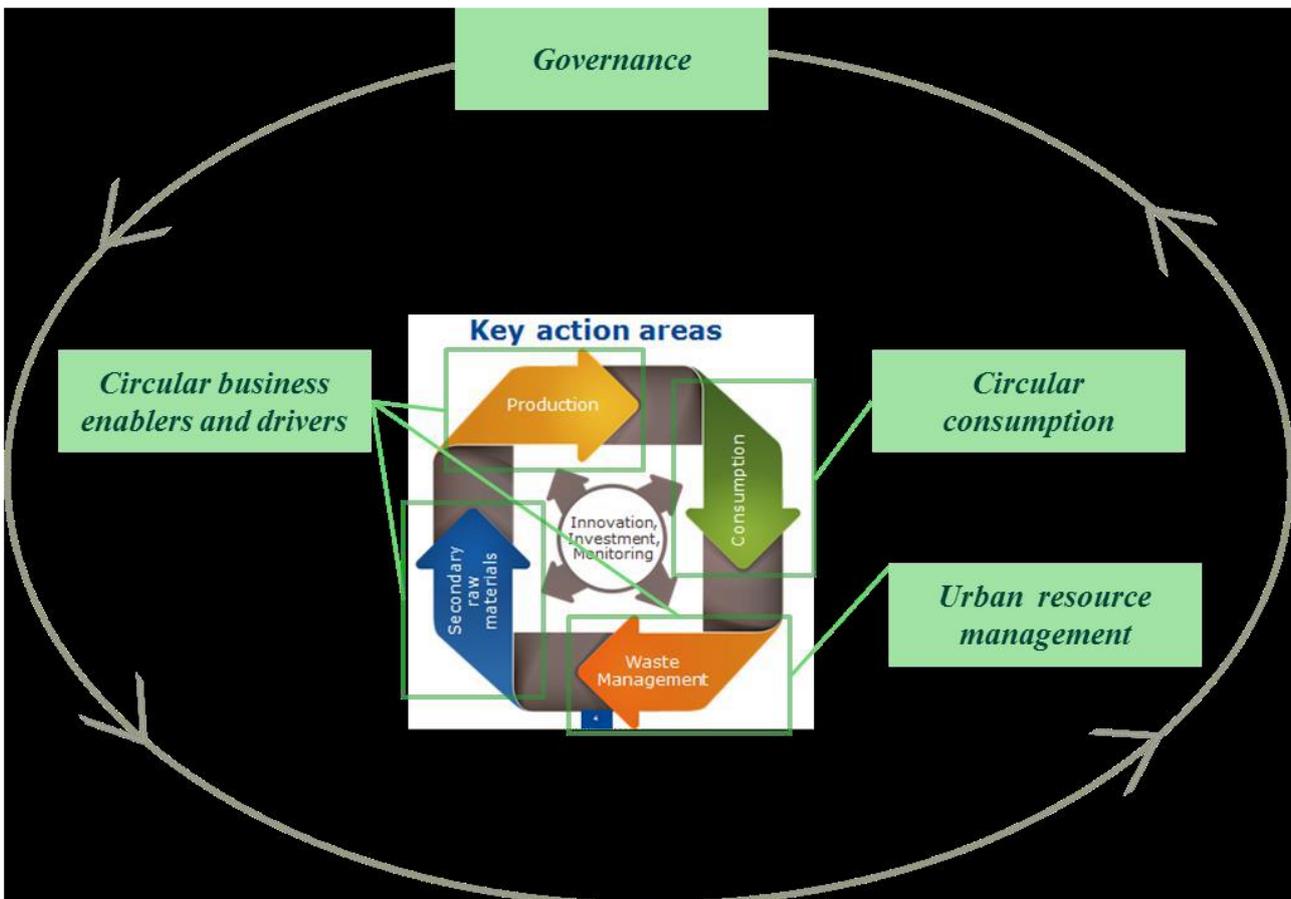


4. POLICY AXES for a CIRCULAR ECONOMY

4.1. BASIC STRATEGIES

The following are pillars of the National Strategy for Circular Economy as well as elements of the developmental transformation and the changes to the developmental model:

- **Sustainable Resource Management**, basically aiming at increasing their efficiency, reviewing value chains, rational waste management, reuse of buildings and re-usage of water or the collection of rainwater and spring-water;
- **Support of Circular Economy**, encouraging the idea of eco-design, producing long life span products, repair, innovation, re-usage, regeneration, promotions of industrial symbiosis (clusters, innovation parks, business incubators, knowledge-information exchange platforms), promotion of innovative entrepreneurship models (e.g., sharing economy), support of bio-economy, promotion of green and circular public procurement, support of secondary material use.
- **Circular Consumption**, with full notification of citizens, use of the Eco Mark and other incentives, training and basic aspirations for sustainable food consumption (deter rejections, urban cultivation), deterring overuse of resources (food-drinks, garments, packaging, EEE), prevention of waste generation through preparing for re-usage, repair and maintenance, auditing retail e-commerce and, finally, promoting use/usage services rather than product supply.



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4.2. MAIN GOALS OF THE STRATEGY FOR CIRCULAR ECONOMY

In the framework of such Strategies, the main long-term goals in our country (2030) are the following:

- 1) Integrating the criteria for ecological design/planning and analysis of product life cycle, avoiding the introduction of hazardous substances into their production and facilitating reparability and extension of product life span. The use of non-hazardous substances also improves the quality of waste during the process of production, thus also reducing environmental income.
- 2) Effective implementation of prioritisation of waste management, promoting the prevention of creating waste and encouraging re-usage and recycling.
- 3) Creating and promoting Manuals for improving energy efficiency in procedures of production.
- 4) Promotion of innovative forms of consumptions, such as the use of services instead of purchasing products or the use of electronic computers and digital platforms.
- 5) Promotion of a rational consumption model, based on information transparency in regard to the features of goods and services, their life span and energy efficiency.
- 6) Facilitation and creation of appropriate channels for the exchange of information and the coordination between administrations, the scientific community and the economic and social agencies, so as to lead to synergies compatible with the transition to the circular model.
- 7) Highlighting the significance of shifting from linear to circular economy, by promoting transparency in procedures, improving information given to citizens, training and raising social awareness.
- 8) Processing transparent and feasible indices for monitoring the implementation of the transition.

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4.3. CIRCULAR ECONOMY AS PUBLIC POLICY

The Strategy of Circular Economy needs to be incorporated into Governmental planning and Ministerial sectorial policies, into the National Developmental Strategy 2021 and its corresponding specific issues, the financial and developmental tools and their new expressions (developmental-investment Bank) and to mark the overall governmental developmental policy.

Successful transition to circular economy requires parallel implementation of actions at all stages of the value chain: In mining raw materials and the design of products and materials (PRODUCTION), movement and consumption of goods, repair, reuse or reconstruction through informing the public, research and innovation (CONSUMPTION) and putting materials and water into new usage (SECONDARY RAW MATERIALS).

The holistic approach to the issue of circular economy also requires ways of more collective operation of basic agencies (Administration, Market, Media, Society, Local Authorities, Citizens), as well as improved coordination of Administration (Government, Ministries, Organisations, Agencies).



5. OPERATIONAL ACTION PLAN FOR CIRCULAR ECONOMY

The sum of actions for the next two-year period includes interventions in the following fields:

- Regulatory and Legislative reforms to support circular economy and address bureaucracy
- Financing and financial incentives
- Improvement of knowledge, of its management and exchange procedures and its interlinking with production, the economy and society
- Support of circular economy and networking governance

1. Regulatory and Legislative Reforms

Developing institutional tools in Production, Consumption, Waste Management and Secondary Raw Material use will shape the legislative and regulatory framework necessary to promote circular economy and the implementation of the transition.

Implementation Action 1.1: Completion of the legislative framework for waste management.

Effective implementation of prioritisation of waste management, promoting the prevention of creating waste and encouraging re-usage and recycling is necessary. Revision, re-adaptation and completion of the existing institutional framework with a series of legislative and regulatory adjustments already in progress (sorting at the source, recycling, new pricing policy to encourage prioritised waste management, institutional framework and reinforcement of FoDSA-Regional Solid Waste Association, amendments to Law 4042/2012, cleaning regulation of Organisation of Local Authorities (OTA), implementing Joint Ministerial Decisions on processing specifications for Urban Solid Waste and the use of compost, separate waste stream collection, including hazardous household waste, prevention measures, special implementation measures concerning plastic bags and disposal of plastic objects, full efficient use of IMA-EMPA [Electronic Waste Register-National Producers Register], etc.).

Provisions have been made for the revision of the framework of specifications for the management of solid waste (Joint Ministerial Decision 114218/1997), the timely updating of ESDA [National Plan for Waste Management] and PESDA [Regional Plan for Waste Management] in the context of European Directives and Circular Economy, which are going to be incorporated into the national legislation. Furthermore, provisions have also been made for the implementation and operation of the Integrated Information System for Waste Management.

Time of Implementation: 1st half of 2019. Laws 4496/2017 (Recycling & Alternative Management) and Law 4555/2018 (“Cleisthenes”) have been passed, as well as the National Waste Prevention Programme².

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of the Interior-Ministry of Economy and Development)

² There is a Ministerial Cabinet Act-authorized National Waste Prevention Programme. However, there are no specific goals for prevention, nor are there programmes required by legislation, nor any manner of evaluating the results of such waste deterring programmes. Measuring methods are required for waste prevention and more binding goals for waste reduction.



Implementation Action 1.2: Drafting a National Action Plan for the promotion of Green Public Contracts and the preparation of a national policy.

The National Action Plan is being processed by an inter-Ministerial team and approved by a joint Decision of the Minister of Economy & Development and the Minister of Environment and Energy. There is a similar proposal, prepared by a previous committee, for ‘greening’ 18 product groups and a study-proposal for a National Action Plan. This has to be linked/connected with circularity by including circular criteria as well. The EU has also defined criteria for the ‘greening’ of 25 groups of products. Similar work concerning Circular Public Procurement is also in progress by the Partnership for Circular Economy of the EU Urban Agenda), in which the Ministry of Economy and Development and the Ministry of Environment and Energy participate.

Time of Implementation: 1st Semester 2019. It should be noted that the deadline stipulated for the team is 18 months.

The Promoting-Coordinating Party: Ministry of Economy and Development (Ministry of Environment and Energy, Ministry of Infrastructure and Transport, Ministry of the Interior)

Implementation Action 1.3: Processing proposals for reducing food loss

A relevant recommendation for reducing food loss and combating food waste is being processed by the existing inter-ministerial working group (under the responsibility of the Ministry of Agriculture and Food), which is to submit proposals to improve national legislation to the Secretary-General of the Ministry. Existing legislation is vague on the matter of food disposal and hygiene, and this limits the possibilities for donating food and other ways to limit food waste. Positive regulations and solidarity initiatives by local self-government authorities and social organisations and institutions in Greece need to be used, reinforced and improved³. An agency to collect and redistribute to destitute people food not consumed at supermarkets before their sell by day expires needs to be created at municipality levels.

A relevant European platform is already in operation.

A proposal for incentives to establish systems for the redistribution of food with the participation of Local Self-Government Authorities, catering and recreational hotel units, corresponding to the extended producer accountability.

Time of Implementation: 2nd half of 2019. It should be noted that the team shall serve a two-year term.

The Promoting-Coordinating Party: Ministry of Agriculture and Food (Ministry of Environment and Energy)

³ Some such incentives to reduce food waste are already implemented: (‘Withdrawal’ of agricultural products and their free disposal to vulnerable social groups. Furthermore, when fishing products have been confiscated, they are made available for charitable purposes. The use of former food as fodder is being implemented on a pilot basis, using an electronic system of produced and managed quantities of animal by-products, by the competent service of the Ministry of Agriculture and Food. Law 4238/2014 provides for VAT exemption for food provided free of charge to not-for-profit legal persons under public or private law which have been proven to be serving charitable purposes or providing community services, so that it may be distributed exclusively to serve and relieve vulnerable social groups at no reward, as long as these goods do not place public health at risk. According to the relevant provisions, past-dated food of minimal duration may be disposed, unless it is perishable, at a lower price and under specific conditions (e.g., label, placement at a separate spot, etc.) (Ministerial Decision A2-718 / 2014, in cooperation with the Ministry of Agriculture and Food, Hellenic Food Authority, and the General Chemical State Laboratory of Greece).



Implementation Action 1.4: Adjustment of the framework for public and private construction projects.

In the EU Action Programme for Circular Economy, the Construction and Demolition sector is considered to be of critical priority; it is reported that the Commission is to undertake a series of measures to ensure recovery/salvage of valuable resources and proper management of waste from building construction and demolition, so as to facilitate the assessment of the environmental performance of buildings. In any case, given the long life span of buildings, it is necessary to encourage design improvements that will reduce the environmental impact and increase the durability and recyclability of their construction elements. Already an EU Protocol concerning waste generated due to construction and demolition has been drafted in this direction⁴.

Additionally, mineral raw material exploitation cannot use traditional methods any more. Exploitation methods should tend to minimise environmental nuisance, to recycle and further use co-products and by-products of mining and to environmentally manage the waste produced as a result of the mining activity. Finally, when exhausted, mines are returned to society, in stages and within a foreseeable time, so that they may be used through a wide range of later uses.

Time of Implementation: 2nd half of 2019.

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Infrastructure and Transport)⁵

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Implementation Action 1.5: Clarification of the distinction between waste and products facilitating the transition to the use as secondary raw materials.

The vague definition of waste and the lack of criteria concerning the end of life of products limit and complicate management, transport and trade of materials destined for recycling at the end of their use. Current legislation overlapping does not support recycling. To be prepared:

- A proposition for a new definition/new legislation concerning after-use resources ('re-fuse') collected and destined for recycling.
- Standardisation and harmonisation of definitions and classifications of products/by-products.
- Criteria to determine the end of waste
- Drafting qualitative standards for secondary raw materials.
- In the context of the action, it is recommended that the union legislation on waste, food and animal fodder/forage should be investigated and clarified, so as to facilitate the safe use of former food and by-products to produce animal fodder/forage so as to facilitate planning of related actions by the competent authorities.
- Clarification of the distinction between waste and products facilitating the transition and use of waste produced on the ships and cargo residuals.

⁴ https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_el

⁵ An inter-ministerial Working Group has been established at the Ministry of Environment and Energy to Update-Amend the Framework of the Alternative Management of Waste generated from Construction Excavations and Demolition (AEKK). This concerns Joint Ministerial Decision No 36259/1757/E103/10 (Official Gazette 1312 B/24-8-2010).



- Establishment of an advisory committee to “determine the end of waste”, in the sense of Article 40 of Law N.4042/12, based on the criteria provided in Law 4042/12, Articles 12 and 13 (by-product and determination of end of waste, respectively).

In this context, illegal trading phenomena must be avoided, secondary and end of waste materials should be linked to the Electronic Waste Register and financial and administrative incentives should be given to deter the exploitation of incentives through activities that do not promote circular economy.

Moreover, in the context of development of a market for secondary raw materials, special emphasis will be given to the tracking of social trends for products in particular for important textile and food products (as Opinion of EESC recommends)⁶.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, Ministry of the Interior)

Implementation Action 1.6: Re-usage of water and use of the sludge from waste water purifying plants

Processing the proposal to review legislation on processed water from industrial waste and urban sewage so that it may be used for irrigation or industrial or port purposes (urban green, gardens, green zones, peri-urban farming, industrial water, port usage, etc.). It is also useful for energy purposes or in combination with desalination plants.

Recording all existing initiatives is also included (e.g., H2020 Plans, INTERREG), in our country and in South Europe as well as awareness-raising actions. It will increase the potential of re-usages of processed water. It has to be linked to the review of the framework-directive on waters.

Because in the EU Action Plan on Circular Economy water re-usage is considered to be a critical priority sector, it is stipulated that:

“Along with the measures for efficient water use, the re-usage of waste water following processing and under safe and economically efficient conditions, is a valuable but untapped means to increase water supply and mitigate the pressure EU water resources receive due to over- exploitation. Reuse of water in agriculture further contributes to the recycling of nutrients, by replacing solid fertilisers. The Commission will proceed to a series of actions to promote the re-usage of processed liquid waste by adopting legislation on minimum requirements for reusable water. In this direction, initiatives have been taken by the Commission⁷”.

Similarly, the Joint Ministerial Decision on sludge from waste water purifying plants and on specifications for its use in agriculture and energy generation should also be revised. In the context of such revision, what should also be investigated is the processing of sludge with the addition of lime, so as to improve and sanitise the sludge to be used for agriculture and contribute to environmental upgrading, restoration of degraded soils and water conservation/protection.

Time of Implementation: 2nd half of 2019.

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, Ministry of Agriculture and Food, Ministry of the Interior)

⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2016:264:FULL&from=EN>

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2018:367:FULL&from=EL>

⁷ <http://ec.europa.eu/environment/water/reuse-actions.htm>



Implementation Action 1.7: Developing innovative applications and cutting edge technology for waste management in the RIS3 context.

The General Secretariat for Research and Technology, in the context of specifying the National Research and Innovation Strategy for Smart Specialisation 2014-2020 (RIS3) in the sector of 'Environment - Sustainable Development', elaborates on a series of actions and research programmes. RIS3, as a comprehensive agenda for economy reformation, has to be integrated, as a basic axis, into the National Policy for Circular Economy, while the process of 'entrepreneurial discovery', an element of RIS3, should be made use of so as to involve all stakeholders of the sector of innovation, such as Universities, public agencies, scientific and technological parks, businesses, civil society, in its planning phase. A similar Working Group is to be established in the Environmental sector of the RIS3. Other important roles are to be played by ELOT-ESYD [Hellenic Standardisation Organisation-Hellenic Accreditation System], OBI [Industrial Property Organisation], EMAS [Eco-Management and Audit Scheme], academic and scientific/professional agents.

Thematic areas for funding research projects will include among others the following:

- Agrofood – emerging innovative technologies in the field of circular economy aiming at reducing the environmental footprint.
- Life-cycle analysis of products – critical raw materials, recycling, reuse, value chain formulation.

Time of Implementation: 1st and 2nd half of 2019.

The Promoting-Coordinating Party: General Secretariat for Research & Technology, Ministry of Economy and Development

Implementation Action 1.8: Indicators of Circular Economy

Resource productivity, energy required, carbon dioxide emission reduction are all highly significant indicators internationally. On the other hand, the limited availability of objective indices to measure the circularity of enterprises prevents growth or/and shifting profits from/to the part of the activities that promotes circular economy. This is why it is proposed to examine how to define circular economy indices and correlate them to entrepreneurial activities, as well as the effective use of the National Documentation Centre.

An effective tool for this action would be the Circular Economy Monitoring Framework proposed by the European Commission (COM(2018)29)⁸, which encapsulates in a robust set of indicators, the main elements of the circular economy, such as the life cycle of products and materials, the priority sectors, as well as impacts on competitiveness, innovation and employment. As such, this indicator set is the basic tool for monitoring transition, trends and for assessing the effectiveness of measures and policies. It can be further used to identify good practice among Member States. The corresponding opinion of the Opinion of the European Economic and Social Committee⁹, which emphasizes on the interlinkages between the circular economy, the low carbon economy and the Sustainable Development Goals, should also be taken into account. Green Public Procurement will also play a pivotal role in moving the circular economy agenda forward.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Economy and Development (Ministry of Environment and Energy, Ministry of the Interior)

⁸ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0029&from=EN>

⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2018:367:FULL&from=EN>



Implementation Action 1.9: Developing a methodology to measure and monitor food waste.

There is no common and agreed-upon definition of food waste in the EU, or a common method to measure and monitor such waste. The absence of a common framework so as to define food waste to date has led to the creation of data sets that are not always comparable or transparent. Studies indicate the need for more consistent and comparable data, so as to reduce uncertainties and make it possible to comprehend the problem magnitude and the scale of possible opportunities.

It is necessary to adopt a framework for measuring and auditing food waste. International experience could be a good source (e.g., Flanders).

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, Ministry of the Interior)

Implementation Action 1.10: Developing ecological design criteria.

Regulations are recommended to integrate ecological design criteria, such as:

- Operation of related structures (Committee on a management system and auditing EMAS Regulation 2017/1505, establishment of a Supreme Council to award the EU ECOLABEL, Joint Ministerial Decision on the implementation of Regulation 66/2010);
- Analysis of product life cycle, considering the energy required for the production of raw materials and the final product, as well as the cost of their decomposition and disposal;
- Production of products containing no hazardous substances, which facilitates their reparability and extends their life cycle.; Improvement of waste quality during the productive process, reduction of environmental impact;
- Formulating measures to promote the possibility of repairing products, product strength and recyclability as well as the availability of spare parts in the context of eco-design;
- Adopt eco-design indicators;
- Integration of RES (Renewable Energy Sources) in public works, e.g., hydroelectric plants, photovoltaic panels, active and passive systems in buildings, so as to reduce the energy footprint of projects when their life cycle has been completed;
- Extension/Expansion of product marks (or producing procedures) with wider calibration so as to attract a wider audience and raise public awareness all the more;
- Creating specifications, standards and certification of recycled construction materials (e.g., small tiles, pavement tiles) and recipients, as well as support for Greek Public Contracts in the same direction.
- Due to the long life span of public and private projects (buildings, etc.), parallel and proportionately to eco-design, there could also be electrical equipment labelling so as to promote similar design and marks on construction materials.
- According to the 'European Strategy for Plastics in a Circular Economy'¹⁰ we should aim for a smart, innovative and sustainable plastics industry, where design and production fully respects the needs of reuse, repair, and recycling, brings growth and jobs to Europe and helps cut EU's greenhouse gas emissions and dependence on imported fossil fuels.
- Reduction of air emissions through scrubbers in ships and vessels

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Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, & ELOT [Hellenic Standardisation Organisation], Ministry of Infrastructure and Transport)

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0028&from=EN>



Action 1.11: National standards for the environment and circular economy.

The Joint Working Team of Experts of ELOT [Hellenic Standardisation Organisation] on “The Environment and Circular Economy” tackles standardisation in the field of environmental characterisation of liquid and solid waste and keeps up with the activities of International & European Standardisation. It has already prepared and presented for consultation a draft ELOT Standard for the Sustainability Indices of cities in the context of sustainable development of human communities. It is necessary to monitor developments of standardisation to end the characterisation of waste and regard it as a resource in the context of circular economy, while defining the needs for adapting and developing Greek standardisation and disseminating the implementation of relevant international and European standards. It is necessary that industrial and other products should be supervised so as to stop the movement of products containing hazardous materials and substances. It is necessary to monitor and impose sanctions when existing standards and procedures are not observed.

In the Draft ELOT Standard concerning city sustainability indicators, in regard to formulating Greek indicators, institutional agencies are actively participating so as to ensure sources based on existing data available as well as to identify any shortcomings in collecting useful data for the adoption of the standard in question. This way, it becomes possible to gather and use all existing data available to co-competent public agencies that are significant for formulating indices to monitor the performance progress of sustainable cities. The institutional participation of these agencies is expected to be a significant contribution in the general direction of implementing the Agenda 2030 Goals and Targets of Sustainable Development at the national level, while it allows for an overall recording of sustainability indices throughout the country. Determining sustainability indices for cities will contribute to the work of the Observatory of Circular Economy as well (Action 4.3).

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Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Economy and Development (ELOT [Hellenic Standardisation Organisation]), Ministry of Environment and Energy, Ministry of Infrastructure and Transport, Ministry of the Interior)

Implementation Action 1.12: Incorporation of the dimension of circular economy into the assessment of environmental impact studies.

The action aims at the simplification of environmental permit procedures, taking into account that investment in circular economy actually reduces environmental impact. Specific steps include:

- The identification of possibilities for improving environmental legislation to facilitate the uptake of circular economy approaches
- The integration of circular economy criteria in the environmental permits of investments and infrastructure, in combination with the speeding up of the relevant administrative procedures
- The investigation of possibilities to facilitate industrial symbiosis, e.g. by not requiring a fully-fledged Environmental Impact Assessment when testing the possibility to use by-products in industrial processes, and relying only on technical assessment.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: The Ministry of Environment and Energy in cooperation with the competent Ministries at any given case: Ministry of Economy and Development (concerning entrepreneurial activities), Ministry of Infrastructure and Transport (concerning infrastructure), Ministry of the Interior (concerning licensing and municipal regulations).





Action 1.13: Promotion of using brokerage, as a non-remunerated, consulting service, at the level of regions or cities to promote circular economy.

‘Resource Brokers’ may be the local or regional self-government authority or private individuals. They may be part of the entrepreneurial community, which is involved at the very early stages of promoting the closing of material life cycles, of gathering factors and developing offer and demand in the secondary material market. In many cases, the knowledge of such experts is necessary for accelerating the development of circularity in enterprises and industrial activities.

This action will deploy an analysis that will characterise and indicate the significance of the role of existing ‘brokers’ in building bridges between the circular economy stakeholders and, in particular, in the case of industrial activities. It will also define the profile of the operations of “brokers”, their accountability and the manner in which they can be incorporated within the municipality to accelerate the development of circular economy enterprises and industrial activities.

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, Ministry of the Interior)

Action 1.14: Creation of urban spaces as ‘creative re-use centres’ through the use of Green Points/KAEDISP [Centre for recycling, training and sorting at source], turning them into ‘Green Centres’.

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‘Green Centres’ will encourage the repair, reuses, alteration, training in repairing/maintenance, as part of the local community. These are broader structures based on Green Points/KAEDISPs [Centres for recycling, training and sorting at source]. A meeting point for consumers and producers to receive feedback on design and layout so that urban areas may encourage eco-design.

The action includes, *inter alia*:

- Mapping of existing initiatives for reuse and examining the possibility of establishing a common framework/guidelines to create centres for social training/repairing in cities (repair-café, more integrated structures, local/regional platforms and websites);
- Drafting specific list of inflowing waste;
- Linking green centres with waste processing structures;
- Sorting and classifying inflowing waste so that they may be regarded as reusable or hazardous waste.

Time of Implementation: 1st half of 2019 - 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of the Interior)

Action 1.15: Promoting the use of waste as secondary fuel in industry.

The use of waste, particularly of organic origin, as industrial fuel, when it cannot re-enter the productive process, can significantly contribute towards economising on non-renewable fuel, reducing greenhouse gas emissions and the cost of production, particularly in energy-hungry sectors, such as cement production and other industries meeting the requirements of Directive 2010/75 on industrial emissions (IED) concerning gas emissions in association with the type of waste and/or secondary fuel that may be used.





The action includes identifying any administrative practices that may obstruct the energy use of waste in industry and tackling them through regulatory interventions (adopting technical specifications, audit specifications, regulatory rules, etc.), informing actions, seminars, etc., based on the prioritisation of waste management methods and the provisions of EU legislation, particularly that concerned with reinforcing/encouraging re-usage and recycling, taking in account the related Communication¹¹, the conclusions of the Best Available Techniques (BAT) and the 2018/851 Directive.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, Ministry of the Interior)

Action 1.16: Establishing an institutional regulatory framework to facilitate the production of bio-methane (green gas) from organic waste and its injection into the natural gas grid or its use as vehicle fuel.

The use of bio-methane and ‘green gas’ in general (methane and hydrogen produced from bio-gas) is an increasingly developing energy option worldwide; this is necessary to achieve the goals of reducing greenhouse gases and the goals of Paris Agreement. Modern technology allows biogas cleaning through membranes so that the methane produced is of equivalent purity to that of natural gas. However, the regulatory framework in Greece does not allow its use through injection in the grid or as vehicle fuel, as opposed to other countries, such as France (it has adopted, *inter alia*, the target of injecting into the grid 1.7 TW/annum in 2018, and of raising the share of the gas from renewable energy sources used to 10% of overall gas consumption by 2030). Greece has a multitude of farming industries (poultry farms, pig sties, dairy produce industries, olive oil presses, etc.), which produce major quantities of farming waste with significant impact on the environment because of the problems of their management. Promoting bio-methane would not only contribute towards reducing greenhouse gas emissions and natural gas imports, but would also resolve the issue of managing organic waste from farming industries or households (including hotels and food produce after its expiry date).

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Using bio-methane requires a lower feed-in tariff than producing electric power from bio-gas (by about 50%), but it is not feasible at the moment because there is no appropriate regulatory framework (legislative gap/loop) when it comes to injecting it directly into the grid of (usually medium) pressure or its use as vehicle fuel.

The action concerns identifying the legislative obstacles or gaps/loops and their gradual removal through appropriate measure adoption in cooperation with the competent agencies (DESFA [Hellenic Gas Transmission System Operator], the RAE, etc.). Indicatively, the following should be taken into consideration:

- CNG use from methane and bio-methane refuelling stations;
- Combined production of electric power and CNG fuel;
- Environmental licensing for bio-gas upgrading technologies;
- Extension of gas as fuel for recreational vehicles;
- Incentives to transform, mainly, heavy vehicles (Public Road Transport Vehicles, intercity KTEL buses, rubbish collection trucks);
- Mobile CNG refuelling units;

¹¹ <https://eur-lex.europa.eu/legal-content/EL/TXT/PDF/?uri=CELEX:52017DC0034&from=EN>



- Certification of vehicle transformation;
- Tax incentives.

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of the Interior)

Action 1.17: Drafting a Joint Ministerial Decision for compost from pre-selected organic waste.

A joint ministerial decision should be drafted on the specifications and the use of compost produced from separately collected organic waste, placing emphasis on household waste so as to safeguard the quality of compost produced at composting plants using pre-selected organic waste to facilitate its further use.

At the same sight, the products of mixed ASA [Urban Waste] Processing Plants (CLOs, digesting plants, secondary fuels, etc.).

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development)

Action 1.18: Upgrading and Reinforcement of Bio-economy sectors. Drafting a National Action Plan for national policy making.

There is a wide margin for implementing Biotechnology practices in our country, particularly in the framework of the recently announced European Strategy for Bio-economy¹². In the primary sector of our country, in particular, there seem to be significant and extremely necessary financial benefits for rural enterprises. Indicatively, it is possible to develop the potential of forestry biomass, pruning materials (fuel, pellets, etc.), straw and rice, juice plant waste, whey, recycling of used greenhouse plastic, use of animal farm waste for the production of biogas, which also deters negative environmental impact from not managing it, resource conservation with a small improvement to current irrigation water management.

It is necessary to have central planning for selecting specific fields for Bio-economic development, based on the particular features and the wealth of the country and to set priorities. In this context, the following two actions are proposed:

- Developing targeted further education to encourage sustainable bio-economy and biotechnologies to support it in the selected sectors of interest for the Greek peripheral areas, depending on their needs, infrastructure and features (agro-food, bioenergy, textiles, chemicals, etc.). The main idea of such activities should be to promote biotechnological applications in conditions that ensure safety for public health and the environment (biosafety).
- The processing of the legislative framework in force so as to encourage innovative entrepreneurial initiatives, and of the regulatory framework, taking into account the trends in countries with developed biotechnology and the prospects for bio-economy in the near future (e.g., Trans-Atlantic Trade Deal).

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Agriculture and Food (Ministry of Environment and Energy)

¹² EU Announcement



Action 1.19: Developing the potential of the institutional framework of Law 4513/2018 on Energy Communities at the local level, through RES technologies and improvement of Energy Efficiency.

Incentives for the utilisation of agricultural and industrial waste by Energy Communities and the use of electric power for electrification of infrastructure, such as:

- Participation of Local Authorities, local agencies and citizens in Energy Communities to utilise waste that can produce electric power (biomass-biogas) so as to electrify infrastructure, such as transport.
- Participation of Energy Communities in projects of energy upgrading with the use of recyclable materials (creation of incentives, such as awarding by the Municipality, as long as it is of a non-profit character).

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy

Action 1.20: Management, development of potential and reuse of waste products

The use or redistribution of products, such as clothing, furniture, devices, etc., which are not useful to other citizens or families or other fellow-citizens or families may be absolutely necessary. Initiatives must be taken at the local level for the collection of useful products that are not necessary for some, so that they may be used by the poor or by low-income citizens. Today the collection and redistribution is undertaken by social groups who support people with basic surviving needs (homeless, refugees, etc.), but management is not always appropriate and effective resulting in ineffective use.

It is also important to investigate ways to recycle materials from vessels that are beyond the scope of the EU Regulation 1257/2013, such as plastic tourist vessels and wood fishing vessels or other vessels abandoned on land or sea, which pose a threat to the environment.

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment & Energy (Min. of Infrastructure & Transport)

Action 1.21: Adaptation of cost types so as to estimate the costs of the life cycle span of a public or private project

The EU Action Plan on Circular Economy considers the Construction sector as particularly critical in priority and states that the Commission is to take a series of measures to secure the second use of materials and products to construct projects, so that this possibility may be included in the assessment of the life cycle span of such a project. It is necessary to encourage the estimation of the life cycle span of a project as a criterion for awarding public project contracts, so that it may be used as a criterion for assigning to reinforce additional environmental performance and the use of environmental execution clauses upon delivery of the project. Best practices of other Member States should be taken in account¹³.

¹³ - Circular Procurement Best Practice Report, May 2017 Publisher: ICLEI – Local Governments for Sustainability, European Secretariat, Authors: Mervyn Jones (Sustainable Global Resources Ltd), Iben Kinch Sohn and Anne-Mette Lysemose Bendsen (Danish EPA)

- Life Cycle Costing State of the art report, March 2017 Publisher: ICLEI – Local Governments for Sustainability, European Secretariat Author: Helena Estevan and Bettina Schaefer (Ecoinstitut SCCL)

- Circular Procurement Case Study Collection, May 2017 Publisher: ICLEI – Local Governments for Sustainability, European Secretariat, Authors: Mervyn Jones (Sustainable Global Resources Ltd), Iben Kinch Sohn and Anne-Mette Lysemose Bendsen (Danish EPA)



Time of Implementation: 2nd half of 2019.

The Promoting-Coordinating Party: Ministry of Infrastructure and Transport

Action 1.22: Incorporation of the principles of circular and sharing/cooperative economy in Sustainable Urban Mobility Plans (SVAK)

A Sustainable Urban Mobility Plans (S.V.A.K.) is prepared so as to meet mobility needs of people and serve the transportation of merchandise into urban areas and their outskirts, thus improving the quality of life. A long-term vision is developed in the context of a SVAK, for balanced, integrated and sustainable development of urban transportation and mobility, based on social, economic and environmental criteria and covering all manners and means of transport. Such criteria may include cooperative, connected and automated mobility in planning sustainable mobility or in the concept of 'mobility as a service', including public transport and active ways of mobility, such as walking and cycling.

The action entails integration of the principles of circular and synergistic economy into the regulatory framework in progress concerning SVAK and the Strategic Plan for promoting sustainable urban mobility in our country.

Time of Implementation: 1st half of 2019

The Promoting– Coordinating Party: Ministry of Infrastructure and Transport (Ministry of Environment and Energy)

Action 1.23: Circular Economy and Ports

Circular Economy should become (constitute) the main target for the islands and island regions development. The island territory constitutes the resultant force of all islands by reflecting the countable, constant and distinctive characteristics such as the small areas, the isolation, the poor access, the unique natural and cultural environment and the interaction between them. The term expresses the specificity of the island territories compared to mainland. By looking more closely one can realize that the islands have differences not only concerning the mainland but they differ from one to another as the intense geographical dispersion of those islands in the sea confers on them a special cultural identity and a unique natural wealth.

The formulation of coherent policies, which would lead to the balanced and sustainable development of islands throughout the year should thus take into account the above specificities. This also applies to the application of the circular economy priorities in the islands. The Strategy towards a Circular Economy should thus integrate, in a horizontal way, the challenges of insularity, the specific features but also the opportunities that islands may harness through a circular economy approach.

The principles and goals of the circular economy (reduction of environmental footprint, optimization of production and maximization of the use value of products, minimization of waste, use and reuse of materials, etc.) should be integrated in the design, operation and development of ports, but also in the activities of providers and users of port services, and of logistics services, which are developed around ports or in collaboration with port operators. This is particularly linked to the increased volumes of cargo and passengers in ports, but also to the significant environmental impact of port operations and logistics services. The integration of circular economy approaches could provide benefits and reduced costs for all actors involved.



In this context, the following themes are proposed:

- Analysis of how to best integrate circular economy approaches in the operation of ports, spanning across all stages (port design, port operation and port expansion) and across all relevant activities.
- Development of facilities and services to ensure that all port waste is appropriately managed. This is not limited to waste and residues by vessels, but also expands to waste from port construction projects, other port operations and port services in general.
- Promotion of cold ironing, to reduce air emissions and improve air quality locally.

Time of Implementation: 2nd half of 2019

The Promoting– Coordinating Party: Ministry of Insularity and Island Policy (Ministry of Environment and Energy, Ministry of Infrastructure and Transport)



2. Actions to improve financing

During this challenging period, caused by the circumstances and the adventures our economy is trying to leave behind, it is considered necessary to create all the prerequisite conditions that support entrepreneurship and development in our country, while providing high level conservation of the environment. Investing in circular economy, energy efficiency and facing climate change may become a lever for changing the Greek productive model, thus reversing the prevalent trends of de-investment while also promoting new investment and creating new jobs throughout the supply chain of industrial products. Integrating this initiative in Greece, as well, so as to restart investment in the Greek industry, providing information, adopting incentives and guiding Greek enterprises, transforming waste management and the need for legislative reform are the only option for the political actions of the Government.

What is also important is to investigate the possibility of community financing in the framework of NSRF and the EU Action Plan on Circular Economy, as well as the proposal for alternative financing/funding sources (introduction of Special Axes and earmarking in the new Regulations, Macro Regional Strategies Fund, Horizon 2020 Programme, Juncker Plan, etc.).

Action 2.1: Possibilities for financing actions for Circular Economy

Action 2.1 assesses the needs for circular economy financing and will present the existing financing sources through analytical mapping. Special emphasis will be placed on strengthening small scale entrepreneurship and social economy.

Investigating financing possibilities are possible through:

- NSRF;
- Trans-national programmes (e.g. INTERREG, ESPON);
- European research funding programmes (e.g. HORIZON);
- the Investment Law;
- the Developmental Bank;
- Other financing possibilities (e.g. European Investment Bank).

Proposals in the context of the financing programmes presented above are to be investigated on the basis of their special features. In addition we are exploring possibilities for funding circular economy investments in ports and islands.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Economy and Development (Ministry of Infrastructure and Transport, Ministry of Environment and Energy, Ministry of the Interior) ¹⁴

¹⁴ According to EU data, the transition is to be financially supported by EFSI, €650M from the Horizon 2020 Programme, €5.5 B from structural funds on waste management and national level investments in the sector of circular economy. New tools have been made known in the Cyclical Bio-economy Announcement.

According to the data we have collected, the following are also available as financing/funding tools:

- Horizon 2020 (€131M + € 36M exclusively for Small & Medium Size Enterprises);
- LIFE (€ 3.5B, of which 25% for circular economy actions with 60% subsidy) for actions adding value to the reuse chain.
- COSME (Activation of € 25B & funding/financing of 300,000 Small & Medium Size Enterprises);
- European Investment Bank (Integrated Programmes of Circular Economy >€10M); 25-year funding/financing, at 2.5% interest rate;



Implementation Action 2.2: Circular tax incentives

Some aspects of tax adjustments in force, e.g., VAT on recyclable or secondary materials, discourage circular procedures. Furthermore, the possibility of using tax incentives is not used to support circular transformation, according to the provisions of European Regulation (EU) 651/2014 for state aid in the sector of the environment and energy.

The action will focus on the following:

- Review of good practices by other member states concerning the use of tax adjustments as incentives for the circular transition;
- Formulating justification and proposals for a circular shift of taxes, e.g., removal of tax barriers when food is donated (VAT), reduction of taxation on repair services (as recently happened in Sweden), shifting labour taxes to raw material taxes (as implemented in the United Kingdom), financial circular incentives for enterprises (tax relief measures, subsidies, facilitation and reduction of licensing charges); incentives for credit foundations financing circular projects (including industrial symbiosis);
- Determining ways in which the state can inform, guide and encourage enterprises to introduce circular changes so they may benefit.

In the framework described above, the following points acquire a particular significance:

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- Overall support and promotion of new entrepreneurial models in regard to environmental innovation, so as to develop new products, technologies and organisational models. Particular significance is gained by the quest for and creation of new markets and areas of interest, in regards to selling products based on cheaper raw materials and to developing entrepreneurial models based on leasing/hiring, sharing, repairing, upgrading and recycling.
- Designing and implementing pilot actions to provide evidence of implementation practices and to integrate the participation and connection of small enterprises in relevant initiatives and value chains (e.g., innovation zones, clusters).

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- InnovFin – EU Finance for Innovators (Palette of consultation and financing tools of the European Investment Bank);
 - European Structural and Investment Fund;
 - European Fund for Strategic Investments (EFSI);
The Fund of €21B is expected to achieve a total multiplying coefficient of 1:15, bringing in around €315B in new investments;
 - European Territorial Cooperation Programmes (€111 M);
 - Inter-regional cooperation Programme (€260 M) for the Environment, Energy and Innovation.
 - At the same time, European Support Mechanisms can be used, such as:
 - European Resource Efficiency Platform (EREP);
 - European Investment Advisory Hub;
 - RMC - Covenant Circular Economy 2022 (extension of Covenant of Mayors);
 - ACR+ Association of Cities of Recycling
 - Circular Europe Network (CEN)
 - JASPERS



- Designing and developing cultivation and skill strengthening programmes, placing emphasis on sectors related to the use of 'circular economy' practical and technological groups as well as on highlighting related technical vocations.
- Adaptation of smart and combination financing tools for enterprises, regardless of their size, as well as caring about the needs and particularities of small enterprises, in conjunction with guidance and support actions to ensure integration of new practices, new technologies or overall entrepreneurial transformation.
- Technical support paying particular care to small enterprises so as to design specialised solutions, integrated projects and synergistic schemes that include combination of objects, productive specialisations and actions in the field of circular economy (e.g., linking agro-food, animal breeding and developing the potential of outputs for bioenergy production).
- **Time of Implementation: 2nd half of 2019**
- **The Promoting-Coordinating Party:** Ministry of Finance (Ministry of Economy and Development, Ministry of Environment and Energy)



3. Know-how and Information Actions

Capitalising on international experience and initiatives at the national level, generating new knowledge, updating and training in a model contrary to the linear model implemented for development is a prerequisite for the new model's implementation. This should penetrate the entire society, administration, self-government authorities, the market and their agencies, so as to mobilise productive potential and train consumers, producers and users on related issues. Comprehensive and appropriate information is a prerequisite condition for the re-integration of vocations, enterprises and sectors that suffered the consequences of the 10-year long crisis, while also providing a productive way out and laying the foundations for developmental transformation.

Implementation Action 3.1: Forum for the development of circular economy

It is recommended that a network should be developed with the participation of economic and social agencies and the scientific community so as to create synergies and ensure transition to the circular model. Among others, the action aims at developing the dialogue with entrepreneurship, which plays a leading role for the substantial implementation of circular economy. The dialogue between public and productive agencies is considered to be necessary for the promotion of the circular model of production:

- to improve the competitiveness of domestic industry through using its comparative advantages and the entrepreneurial development of environmental potential;
- for the human capital and the expansion of the knowledge and technology reserves;
- for increasing the generated added value of the economy and
- the creation of new markets and products with a high degree of penetration in international markets;

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The network will facilitate the creation of appropriate channels for the exchange of information and the coordination between administrations, the scientific community and the economic and social agencies, so as to lead to synergies compatible with the transition to the circular model.

- a forum for the dialogue with society and the market and an electronic platform for the exchange of knowledge and information and for promoting best practices in regard to initiatives preventing waste generation, such as reuse and repair of products and development of corresponding services;
- an electronic database for specialised executives.

The forum operation will be organised at various levels of representation, in the physical and digital environment, while in its context permanent committees representing social partners will be established. Furthermore, the establishment of close links between the 'Hellenic National Circular Economy Forum' and the European one, and with civil society organizations and networks is equally important.

Time of Implementation: 1st half of 2018 - continuous

The Promoting-Coordinating Party: Ministry of Economy and Development (Ministry of Environment and Energy)

Implementation Action 3.2: Development of a Guide for the circular city.

The action will provide guidance related to circular developments, complementing and efficiently using other sources. The guide will focus on design aspects as well as implementation; it is expected to contain,





inter alia, the following: Circular economy good practices and entrepreneurial models, roadmap for the course towards a circular city, guidance concerning funding, guidance concerning circular criteria, monitoring framework, etc. Furthermore, similar actions by EOAN (Hellenic Recycling Organisation) should be useful and made use of, such as the publication of the Guide for Preventing Waste for the Local Self-Government and drafting a representative Local Municipal Prevention Plan.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of the Interior)

Implementation Action 3.3: Special programmes for informing - raising awareness on food waste.

Notifications about best practices concerning circular services and products, turning food waste preventive measures more accessible to citizens:

Defining guidelines for the way to implement an integrated food strategy in regards to the food system of a city, which will also include measures to reduce food waste as part of such a strategy; part of this work could be to include the cost of processing food waste, so that the economic incentives for food waste preventive measures to be better illustrated;

Investigation of the possibility of rendering food waste management costs for local authorities more visible, reflecting the economic incentive for preventing food waste.

Guidelines concerning the manner in which regulatory texts can implement food collecting measures in public agencies, such as schools, hotels, public canteens, as well as households and retailers;

Investigation of the possibility of a form of joint educational communication with citizens concerning measures to prevent food waste in households, particularly using children-'ambassadors';

Guidelines for the way in which municipalities can develop their own programmes/plans/strategies to prevent waste (link to Action 3.1).

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Rural Development and Food (Ministry of Environment and Energy, Ministry of the Interior)

Implementation Action 3.4: Creating and promoting Guides for improving energy efficiency in productive procedures.

Developing the potential of regulatory texts and technical manuals prepared by the country's institutional agencies and unions/associations, as well as major Academic Institutes.

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Infrastructure and Transport (Ministry of Environment and Energy)

Implementation Action 3.5: Formulation of proposals and measures to enhance knowledge and information on various issues of circular economy:



Highlighting the significance of shifting from linear to circular economy, by promoting transparency in procedures, improving information given to citizens, training and raising social awareness concerning issues such as:

- encouragement of industrial symbiosis;
- reinforcing the secondary material market;
- disseminating eco-design of products;
- reusing materials, improving the possibility of repairing products, product strength and recyclability, as well as ensuring the availability of spare parts in the context of eco-design;

Developing information campaigns and actions and raising the awareness of producers, consumers and society, implementing a wide range of diverse actions (Circular Economy Award, presentation of positive practices at the national and international levels, pilots);

It would be effective to develop competitive procedures of good practices by institutionalising Awards and establishing a Scientific Advisory Committee undertaking a more general role as well as the role of a committee of judges.

Awareness raising and dissemination actions for all actors involved in port operations (management authorities, port operators, enterprises, providers and users of port services).

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Economy and Development (Ministry of Environment and Energy, Ministry of Infrastructure and Transport)

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Action 3.6: Promotion of the Cooperative Economy

Currently, the significance of the sharing economy is limited in international central platforms of digital sharing, such as AirBnB, Uber and Ebay. Most definitions of the 'sharing economy' include elements such as: Internet platforms, temporary use, consumer relations, and exchanges of goods or services.

However, there is a part of the range within which the Cooperative Economy can expand. An example of this in Greece comes from 'Energy Communities'.

The Cooperative Economy varies and is not limited to 'hiring the lawn-mower of the neighbours', in the local common use of local energy production and the reduction of dependence on the grid, the market share and the leasing/hiring of estate property. It is a new economic paradigm developing fast around the world, from the state to the neighbourhood level. It can be considered a movement of 'new modernism' or Post-modernism, based on values such as environmentalism, neighbourhood life, community building and technological development.

The Cooperative Economy is the driving force or vehicle behind numerous initiatives of Circular Economy, encouraging circular consumption and reducing CO₂. It also promotes social cohesion and social inclusion. Due to the apparent innovative character, its complexity, its infinite extension and fast growth, Synergistic economy and its role and influence in society encounters resistance.

Knowing the Cooperative Economy better would facilitate its positive impact and mitigate the negative ones: Promotion of innovative forms of consumption, such as the use of services instead of purchasing products or the use of electronic computers and digital platforms; Promotion of actions encouraging shared mobility, which are related to smart and clean transportation; ITS and Cooperative ITS contribute towards



strengthening the dynamism of synergistic economy; they are included in the National Strategy for Smart Transport Systems as well as actions of the Action Plan to promote Logistics matters;

What could be included in the context of this action would be to collect and assess collective initiatives at the national level, using positive international practices, publishing a relevant Manual, formulating proposals for regulatory reforms, organising a central Conference to inform the public about all previous and numerous specific workshops and day-meetings and networking of stakeholders. Furthermore, promoting innovative applications in economic and social activities, such as encouraging new entrepreneurial models based on the use of services rather than the purchase of products (product as-a-service) and the development of 'decentralised repair chains' with the participation of small scale enterprises and self-employed persons, so as to maintain or modernise building stock and products (e.g., repairs and maintenance). In this direction, it is considered to be a significant prerequisite condition to formulate flexible procedures for the establishment of modern and innovative synergistic and cooperative schemes to created the necessary scale economies and facilitate the exchange of mixed knowledge.

These have to be accompanied by particular actions and activities, such as combating bureaucracy, supporting the establishment, licensing, co-creation and networking of cooperatives and other collective forms, and actions supporting the possibilities of shared use.

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment Infrastructure and Transport (Ministry of Infrastructure and Transport, Ministry of the Interior)



4. Governance Actions

Implementation Action 4.1: Secretariat Establishment and Operation

What would be significantly supportive for the work of the Inter-Ministerial Coordination is the operation of a Secretariat (Project Administration Team), playing both a rapporteur and an auditor role, which will tackle effectively all aspects and needs of the Circular Economy Plan.

The Secretariat's basic tasks would be the following:

- Monitoring and coordinating the Time Schedule of actions and planning;
- Precise definition of deliverables for all Actions;
- Assessment of Actions based on criteria, such as current implementation readiness and outcome expected;
- Quantification of high priority, readiness and effectiveness Actions;
- Mapping of stakeholders and recording their viewpoints through consultation procedures;
- Processing proposals to include Circular Economy actions in the existing institutional framework, legislation and provisions;
- Formulating proposals for incentives to finance investment plans and encouraging industrial symbiosis;
- Monitoring measurable indicators of incorporation of Circular Economy in investment plans and the actual economy;
- Formulating proposals to support the secondary material market and to facilitate industrial symbiosis, as well as prerequisite conditions and measures to produce secondary fuels and alternative raw materials from waste;
- Promotion of Green Public Contracts and Procurement;
- Dissemination of eco-design of products;
- Monitoring the implementation of the EU Action Plan for Circular Economy, information and updating on all developments at international level and new initiatives;
- Participation in international Fora and representation through the Executive Secretariat;
- Preparation of specific operational programmes for priority sectors, critical raw materials as well as a specific strategy for the Islands;
- Establishment of a supervising body for product quality and controlling the implementation of relevant production and manufacturing standards;
- Enhancing the supervision of proper implementation of recycling and waste management procedures, based on the institutional provisions in force or being prepared, particularly in industrial areas.

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Socioeconomic indicators for materialisation and monitoring of actions should be taken in account for mountainous, barren areas and islands, as well as for economically weak social groups.

The secretariat will be staffed with specialised executives, chosen from the personnel of agencies and political bodies (seconded from ministries and organisations), knowledgeable about legislation and developments, competent to undertake executive action with sound judgement capacity; they will coordinate with the government in the political sector. They will be selected based on the criteria of effectiveness, training, experience and inter-disciplinary knowledge.

Time of Implementation: 1st half of 2018 The Secretariat is already in operation.

The Promoting-Coordinating Party: Ministry of Environment and Energy (all the Ministries)





Implementation Action 4.2: Administration Education and Training Programmes.

It is considered useful to propose procedures to educate Administrations about circularity and developing a platform of interested parties. Circular economy requires the alignment of various administrative agents and full perspective of the life span concept. Legislation in force was developed in the context of linear economy, tackling each life cycle stage separately (e.g., design, production, use, end of life). All administration and self-government agencies must be included in information and training programmes.

It is necessary to train municipal, regional and decentralised agencies that issue licenses and auditing organisations about the implementation and enforcement of circularity criteria concerning licensed activities (and infrastructure). Municipality and Agency technicians competent for issuing licenses and inspectors need to acquire knowledge about circularity criteria, so that they may be capable to permit and inspect relevant activities. Training and educational initiatives will also develop in port operation and administration authorities.

The proposal concerns developing educational seminars for technicians and inspectors related to the manner of implementation and enforcement of circularity criteria.

Time of Implementation: 2nd half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of the Interior)

Implementation Action 4.3: Establishment of an Observatory for the Circular Economy

To ensure continuous assessment of the course of implementation, an Observatory for the Circular Economy is established, its aim being:

- To collect in an organised manner analytical and aggregated data and evidence from investors, agencies and organisations (EOAN [Hellenic Recycling Organisation], Municipalities, FoDSA [Solid Waste Management Bodies], Port administration authorities);
- To process such data so as to draw conclusions about the development of circular economy and its impact on society, the economy, the environment and labour;
- Extracting indicators of the development of Circular Economy as well as Sustainability Indices;
- Annual report preparation and publication containing aggregated data concerning Circular Economy, which will include all economic, environmental and social indicators.

The Observatory will cooperate closely with agencies of the market, the Primary & Secondary Local Self-Government authorities, the Institutes and Educational Institutes of the country and will be supervised by the Secretariat.

Time of Implementation: 1st half of 2019

The Promoting-Coordinating Party: Ministry of Environment and Energy (Ministry of Economy and Development, Ministry of Infrastructure and Transport, Ministry of the Interior)



6. CONCLUSIONS

In the current circumstances, Circular Economy can strengthen entrepreneurship and development, along with high level environmental conservation. Investing in circular economy, energy efficiency and facing climate change may become a lever for changing the Greek productive model, thus reversing the prevalent trends of de-investment, while also promoting new investment and creating new jobs throughout the supply chain of industrial products. Integrating this initiative in Greece, as well, so as to restart investment in the Greek industry, providing information, adopting incentives and guiding Greek enterprises, transforming waste management and the need for legislative reform are the only option for political actions.

Critical points for the immediate future are:

1. Immediate drafting of criteria, Circularity Goals, Policy Time Schedule and Tools;
2. Integrating preventive and reuse actions in Local Waste Management Plans and corresponding institutional regulations;
3. Fully exploiting Regional Developmental Conferences for the promotion of circular economy aspects: mapping of the regions and goals;
4. Launching financing actions and projects using potential of financing instruments/tools; developing actions to improve funding, which will include small and medium scale entrepreneurship, is a decisive parameter to facilitate the inclusion and participation of enterprises, regardless of their size, in funding regimes;
5. Specifying proposals concerning:
 - Food and necessities
 - Management and use of urban area waste
 - Construction Excavation & Demolition Waste [AEKK] - reuse of construction materials - Specifications - Invoicing of Public Projects
 - Secondary fuels
 - Plastics, in accordance with the European Strategy for Plastic Materials and Appendix II
 - Soil improving products - Agricultural Supplies
 - Water Reuse or Water Collection in arid areas
 - Critical raw materials
 - Bio-economy;
6. Continuous dialogue with productive agencies, self-government authorities and society. Proposal for co-signing of a Protocol on Circular Economy. Launching the operation of a Forum in cooperation with the Economic and Social Council of Greece [OKE];
7. Campaign to inform and raise the awareness of society; Shaping a framework to develop know-how, information and relevant actions of co-governance will capitalise and outline the set of initiatives and will establish a system for designing, monitoring, information dissemination and familiarisation of competent agencies, society and enterprises with the relevant initiatives and the matter in general. Special emphasis should also be placed on specific early mobilisation actions to facilitate, *inter alia*, the active mobilisation and involvement of SMEs, small and very small enterprises in ventures and initiatives of circular economy and to contribute towards empowering the productive basis of the country.