“Towards circular economy action plans at regional and local levels”

Working document

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INTRODUCTION / CONTEXT

The traditional model of economic growth - a linear economy (resource extraction - product making - waste disposal) - leads us to a multi-dimensional impasse:

- In 35 years, the volume of resources extracted increased by 65%... and over 50% of this volume are non-renewable resources (source: OECD)
- The European Union now imports over six times the amount of materials it exports (source: EEA)
- The generalization of the current European lifestyle would require between 2 and 3 planets
- The prices of raw materials have increased by almost 150% between 2002 and 2010; and provides, in 2030, 3 billion middle-class consumers (source : World Economic Forum)
- Strategic commodities (such as gold, silver, indium, iridium, tungsten, etc.) are becoming scarcer and most are usually found concentrated in a few countries: for example, 97% of rare earth elements, essential for wind turbines, low-energy light bulbs or hybrid vehicles, are found in China (source: Institute of urban Planning and Development / Île-de-France)
- In parallel with GDP growth, there has been a growth of waste, harmful emissions (including CO2), public debt, and ... poverty and social inequality.

Of all the concepts for a new economy, that of a "circular economy" is increasingly becoming a major potential source of solutions to the current systemic crisis.

The traditional model must be replaced with a circular economy model aiming at closing the loop of resources and reducing the environmental impact of the product life cycle at all stages of the process (production, distribution, consumption).

This transition needs to be supported not only by European Institutions (as illustrated with the communication from the European Commission "Towards a circular economy: a zero waste programme for Europe") but also by public authorities at local and regional levels.

There are multiple definitions of the circular economy. We suggest to first retain the following as characteristics to take into account:

- Economy opposed to the linear economy (which follows the pattern: « exploit resources - produce-consume-discard »);
- Economy inspired by the functioning of the natural ecosystem, in which « nothing is lost; everything is transformed »;
- Economy integrating « life-cycle thinking » at every stage of the « resource-product-waste » cycle and aiming to limit resource depletion and minimise pollution;
- Economy based on loop management of « stocks » likely to contribute to local employment;
- Economy respecting the « Reduce, Reuse, Recycle » hierarchy

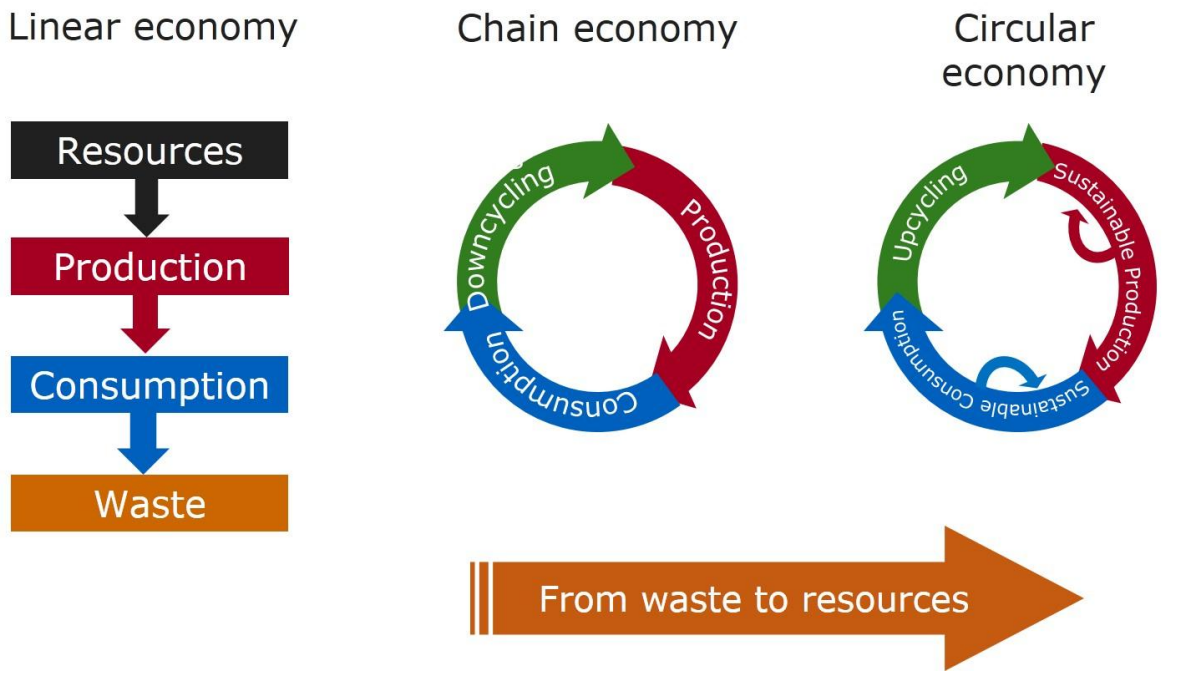
1. The “multi-r” approach: driver for the circular economy

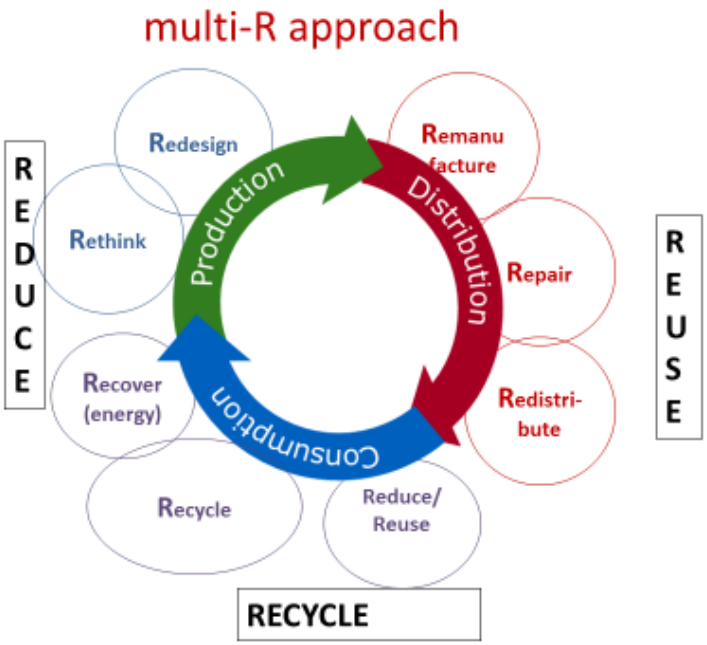
Building on 20 years of experience, ACR+ (the Association of Cities and Regions for Recycling and Sustainable Resource Management) has always been a ground-breaking network focusing on the sustainable management of material resources. ACR+ members have been at the forefront of the promotion and implementation of the highest levels of the waste hierarchy: preventing waste generation then promoting reuse and recycling prior to energy recovery. They are innovative leaders when it comes to developing resource efficiency policies.

ACR+ wants to support local and regional authorities in being ambitious on circular economy and will therefore support and help them to adopt aspiring circular economy strategies. That is why ACR+ decided to develop a specific Working Group on Circular Economy Planning by cities and regions.

This holistic approach can be broken down to several levels and can be illustrated with the different “R” concepts.

This “multi-R” approach helps structure the circular economy as illustrated in the following diagrams:





2. A territorial hierarchy must integrate the circular economy

The circular economy must be combined with the development of territorial economies.

Indeed, it should be noted that if territoriality is designed at multiple scales, it must first translate into short circuit actions: the circular economy will only grow properly if it starts in a district then spreads to the municipality, then the city or metropolis and regional level, before extending to the national and international level.

This does not mean that we advocate for fully autonomous local and regional entities, but for Cities and Regions taking responsibility for a rational and efficient use of their own resources while coordinating between each other and the lower levels.

3. New sustainable production and consumption models

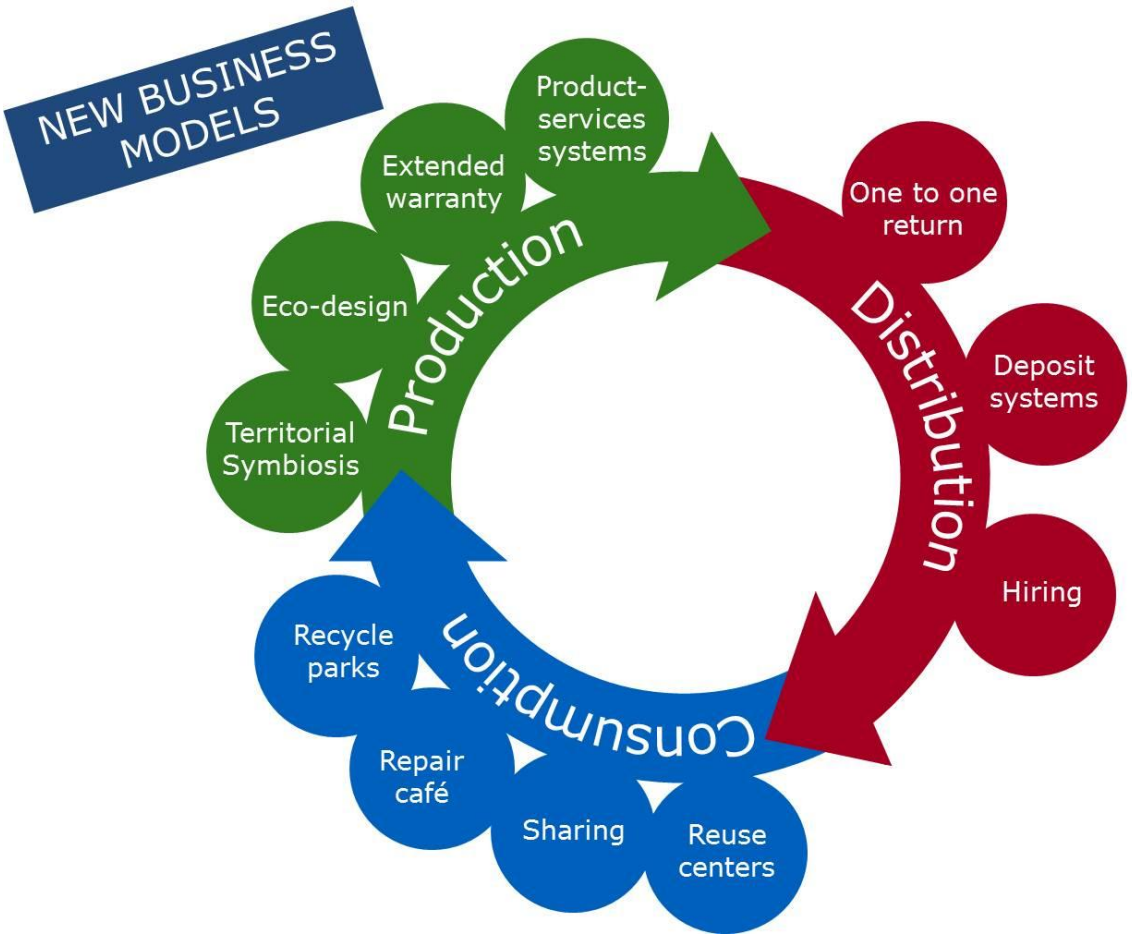
The concept of circular economy can be seen from a production and a consumption perspective.

Both of these perspectives – with all the related economic corollaries – have to be rethought to integrate the logic of alternative business models.

From our standpoint, if we aim for a real and lasting solution to the current systemic crises (environmental, socio-economic, financial, etc.), it is obvious that the circular economy should be imbued with collaborative economy and boosted by innovative business models as illustrated hereunder.

The development and implementation of those business models will require specific skills and proper training pathways, that can be delivered either via traditional studies or on a peer-to-peer basis.

This change of perspective in the consumption/production pattern should also imply a change of image for some activities that used to be impulsed by the economic crisis or the lack of financial means (buying second-hand products, renting rather than buying, etc.).



4. Shared governance and access to information

Proper development, including planning or implementation, of a circular economy strategy should be based on the involvement of multiple actors throughout the product life cycle.

The key is to organise participation of all actors in the value chain of products including mine operators, designers, manufacturers, distributors, consumers, and end of life product managers dealing with reuse and recycling.

Through participative models, each actor of the value chain should be allowed to be part somehow of the decision making power.

Efficient circular economy will come from the meeting between bottom-up initiatives (concrete activities involving local organisations that are looking for synergies with partners at the same level or that wish to extend or diversify their activities) and top-down approaches (coordination and planning in order to facilitate connections between lower levels' actors).

In order to enable a correct development of circular economy business models, the various stakeholders need to have a transparent access to information, in order to allow them to know where they can find the resources or outlets they need. A "resource label" with information on the materials used in a product could be helpful for recycling purposes. A territorial mapping of activities and the inputs/outputs of these activities can certainly help existing and new stakeholders to interact in a complementary way.

Networks will facilitate access to information and will create a climate of trust that is necessary to allow cooperation and information sharing. Such networks need to be encouraged, also under the format of social networks (involving peers, experts in interconnected areas, etc.), and should not be limited by sector but rather allow the possibility to get information and cooperation by type of materials or purpose.

Internationally the scientific knowledge regarding sustainable use of natural resources is increasing fast. The UNEP international Resource Panel (IRP) makes this knowledge accessible for all actors.

5. Regional and local authorities have a key role to play

It is the governments' responsibility to set and therefore review and correct the framework within which the circular economy will flourish. It is especially up to local and regional authorities to develop circular economy action plans: indeed, it is at this level that a large number of material resources activities can be subject taken.

A clear signal from local and regional authorities needs to be sent to the various stakeholders, covering in particular the regulatory and political framework and planning, taxes and economic incentives, infrastructures especially with regards to waste management.

The following graph illustrates the great number of political instruments which are potentially available for cities and regions to act in favour of the circular economy.

FROM WASTE PLANNING TO RESOURCE EFFICIENCY PLANNING

Any circular economy strategy should include the involvement of all available policy instruments and lead to the creation of new ones. However, it goes without saying that the possibilities of using these instruments vary depending on the levels of government and across countries.

For many cities and regions, we think that the main evolution is to move from waste planning towards a “material resources” planning.

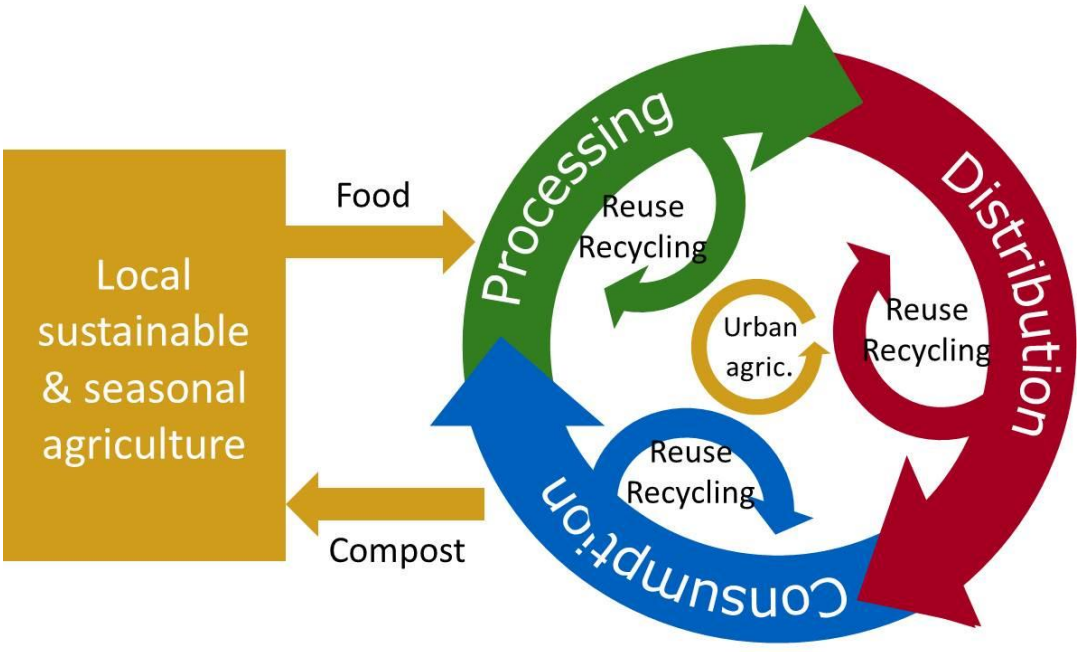
We can qualify the strategy for circular economy as “a zero waste programme” (cfr the EC package about circular economy of July 20014) which takes into account all the environmental impacts throughout the life cycle.

Concretely, the waste management plans and waste prevention programmes could first be reviewed and expended by the competent public authorities.

Focusing on specific sectors will stimulate the different actors in the chain to work towards an approach for the whole chain. The diagnostic review and opportunity mapping, considering the local socio-economic-cultural realities, will determine the priorities within a territory.

We can highlight two sectors as general priorities:

- the sectors of sustainable food



- the sustainable construction

SCOTLAND (UK | 78.380 KM2 with 5.330.000 inhabitants) launched Scotland's first Zero Waste Plan on the 9th June 2010. A **new blueprint for a more resource efficient and circular economy**" has been published in October 2013.This Program includes actions in the following domains:

- Helping businesses use resources more efficiently;
- Stimulating innovation and business opportunities in reuse, refurbishment and remanufacturing
- Promoting sustainable product design
- Improving producer responsibility and reducing the impacts of packaging
- Improving information on materials
- Stimulating a culture of resource efficiency by influencing behavior.

NORD-PAS-DE-CALAIS REGION (FR | 12,414 km² with 4,000,000 inhabitants) entrusted economist Jeremy Rifkin developing an action plan for the gradual transition of the region to the "Third Industrial Revolution".

AMSTERDAM (NL | 219 km2 with 800.000 inhabitants) has decided to develop a circular economy plan 2011-2014 to strengthen its attractiveness based on the concept of Cradle to Cradle and Systems Maps were developed with a focus on three themes: water and nutrients, energy and agriculture.

BRUSSEL-CAPITAL REGION (B | 161 km² with 1,2 million inhabitants) has launched the "Employment-Environment Alliance" (www.aee-rbc.be): a political strategy based on the observation that environmental issues are a key source of jobs and economic development. The first axis of this Alliance are sustainable construction water sector, waste sector and sustainable food sector.

LIMBURG PROVINCE (NL | 2209 km² with 1,112,000 inhabitants) adopted in 2009 at parliament level a "policy framework for sustainable development and cradle to cradle" which includes elements of governance, knowledge development, sustainable land management, sustainable construction and sustainable production .

ILE-DE-FRANCE (FR | 12,000 km² with 12 million inhabitants) has published a report on " Circular Economy , Industrial Ecology " in December 2013 by the IAU (Institute of Development and Planning) This report includes a series of considerations on the circular economy across the Ile- de- France ; in particular it attempts to identify the circular economic potential across the Region (accounting system of material flows; performance of waste recovery, particularly in the construction sector; regional guidelines already in connection with the circular economy).

WALLOON REGION (B | 16,800 km² with 3,500,000 inhabitants) has adopted in 2012 the Program NEXT with the aim to "reinvent the traditional economy turning resolutely towards the circular economy" NEXT is developed with two pillars: the industrial world and teaching.

AQUITAINE (FR | 41,384 km² with 3,254,233 inhabitants) voted in June 2013 a framework-decision for the development of the circular economy (in all its components including the social economy) and is now elaborating a Roadmap " circular economy " in connection with the regional economic development plan (specific sectors being biomass, chemistry, aeronautics ... not to mention the agriculture and forestry).

RHINELAND-PALATINA (GER | 19,800 km² with 4,000,000 inhabitants) has published in 2008 a brochure which takes sample projects to illustrate how the first "integrated" circular economy approaches have been implemented and how they have led to improvements at economic, ecological and social levels.

LIPOR (PT | 648 km² with 985,000 inhabitants), with more than 30 year experience, has been developing an integrated waste management strategy, clearly assuming an approach managing waste as a resource, the base of Circular Economy. In June 2013, LIPOR projected its circular business model and mapped circular best practices, demonstrating that the performance of the organisation creates value along the entire chain: natural resources, industry, distribution and consumers.

FERRARA (IT | 400 km² with 131,000 inhabitants) has developed the LIFE+ LOWaste project which is based on a logic of public-private partnership for closed loop markets, local cycle and employment development.

CATALONIA (ES | 32,114 km² with 7.6 million inhabitants) adopted a new Waste and Resource Management and Prevention Programme of Catalonia 2013-2020 (PRECAT20), encouraging the use of waste as a resource and proposing 149 measures to reach 10 strategic targets, in line with the waste hierarchy and promoting the development of a circular, low-carbon economy.

CIRCULAR ECONOMY PLANNING PROCESS UNDERWAY AT CITIES AND REGIONS LEVELS (not exhaustive)