

THE CIRCULAR ECONOMY

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Circular economy: going further with less

Transforming waste into resources and reducing the environmental impact of economic growth are priorities for Europe. An EU package on circular economy has been long-awaited.

The concept of a circular economy is making headway, and according to the European Environment Agency, 2014 will be the year of waste management. The European Commission will present an ambitious statement on the next steps for all EU member states on July 1. The plan will be written by François-Michel Lambert, French Green MEP and President of the Institute for Circular Economy. He spoke to EurActiv France and said “we’ll no longer say waste, but resource instead!”

The idea of a circular economy aims to limit the consumption and waste of raw materials as well as non-renewable energy sources in the production of goods and services. Key to this concept: waste is seen as an important resource to be fed back into the human economy. A circular economy would mark the end of the direct relationship between economic growth and waste production. Each European citizen currently produces 444 kg of household waste per year. France’s new Minister for



Photo: World Economic Forum/Flickr

the Environment, Ségolène Royal, is fond of the idea and wants to include it in a new French law on energy transition, which will be presented this summer.

The goal of minimising waste stems from a simple observation: raw materials are limited. Zinc and lead resources will be depleted within the next 15 years if current consumption levels continue. “Rare earth” metals are affected by the rarity of the resource and the financial and environmental costs of their extraction.

Oil and gas resources are depleting and plastics produced from hydrocarbons are often falsely thought to be infinite.

‘Optimising’ resources

Optimising resources does not just mean recycling. “There will always be waste. ‘Zero waste’ is impossible,” said François-Michel Lambert.

“Recycling is one way of optimising waste, but there is always a material loss in the process. In the best cases, 95% of the material is preserved. This is not a problem if the recycling process is long. However, if it is short – on a monthly basis for example – the material will rapidly diminish,” stated the French MEP.

Therefore, the longevity and efficiency of manufactured products are important. Car-pooling is an example of effective resource optimisation.

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Innovation to further advance norms

In order to develop a circular economy, it is essential to innovate in areas of taxation, accounting and regulation.

For example, public market rules are not adapted to a circular economy model, seeing as the dominant criteria for selection remains cost price. "Public procurement tenders are a disaster for those who propose innovative solutions. They have no chance of being selected, because the stress is always on price criteria," stated the MEP.

Taxation of circular economy projects also poses problem, as they do not benefit from reduced VAT. According to Lambert, "there must be a fiscal differentiation".

Accountability is also an obstacle for an effective circular economy. "Accounting must be innovated in order to promote a new business model," he continued.

The price of a circular economy package

Many large EU countries have already adopted framework laws on circular economy, such as Germany, Belgium, the Netherlands and the UK. However, France has fallen behind.

The Commission will present a circular economy package on 1 July in order to speed up and systemise the growing movement for such a model. A statement from the EU on the common objectives has been long-awaited. According to a source in the Commission, the package was originally planned for June, but greater momentum has resulted in delays. Its main objective will still be to reduce and recycle waste.

Targets for waste legislation will probably be reviewed, as well as reforming the three existing directives on waste, landfills and packaging.

Changes to current recycling targets are expected. At the moment, approximately 20% of waste is recycled in the EU, with

the objective of reaching 50% by 2020. This is expected to be raised to 80% and a 20% limit on incinerated waste will also be outlined. If these targets are met, sending waste to landfill could be de facto forbidden.

Disparities

Big differences exist across the EU, especially between southern and northern member states. The latest members to join the EU are typically behind schedule in terms of waste management and recycling. The Commission has taken Bulgaria to the European Court of Justice over 113 illegal landfills, which are still in operation, despite numerous injunctions.

Food packaging, austere buildings and the creation of green jobs will also feature in the upcoming package. If the circular economy package is proposed by the Barroso Commission II, it will be closely monitored by the next executive, which is likely to prioritise energy transition and employment.

EU seeks common framework for Circular Economy

Changing business models and throw-away habits may take time. The European Commission wants to speed up the process with binding targets for recycling and public procurement in a Circular Economy package expected in July.

Enhancing business engagement is considered critical in the quest for a lean resource economy. This point has been largely highlighted at a Green Week event in Brussels, though views differ on ways of achieving it.

"In 2002 we reached a turning point for commodities prices, which reflect the fact the resources are scarce," said Jocelyn Bleriot, from the Ellen MacArthur Foundation.

According to the WWF, the world economy currently needs more than 1.5 times the resources the planet is able to produce today.

The MacArthur Foundation has been a strong advocate of the circular economy since its launch in 2007. Its focus is now on the technical conditions to reach it, and the different strategies to adopt for value creation.

"Recycling is not the only way out. We need to think of reuse, prolongation of (the) life of products, and also enhance business models," explains M. Bleriot.

Selling services rather than products

Rather than selling products, companies should think of how to offer a service, Bleriot says.

Renting, for example, may allow enhancing life cycles. Enabling access to products over ownership also means organizing take-back systems and infrastructure or logistics, and facilitating cross-sector collaboration.

However, industrial policies remain local, and calls for a proper European industrial policy on the subject remain isolated.

Need for clarity

Regarding the need for regulation, opinions get rather polarised.

"Recycling is not just about scrap metals" Bleriot says. The End-of-waste criteria, supposed to organise the recycling of critical raw materials, do not involve enough materials according to environmentalists. Piotr Barczak from the European Environmental Bureau (EEB) says packaging, for instance, represents a major issue.

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“The packaging waste directive is very old, it needs to be reviewed. This should be included in end-of-waste criteria, because packaging is not decreasing, it’s growing! We’re still a throw-away society,” he said.

A lot of hope stands in the Circular Economy Package planned for July by the European Commission, as “regulation is not clear for anyone at the moment,” according to Jocelyn Bleriot.

Old policies criticised

Some speakers also questioned the rationality of existing European policies.

Sebastien Godinot from the WWF pointed out the high price of creating jobs through the Common Agricultural Policy (CAP). A job created through the CAP costs more than €250,000 per year, as the whole system leverages land prices. Whereas a job created in the resource-efficiency sector represents more value for money, he says, as it can be financed with €50,000. Renewable energy jobs need the same amount of investment, he said.

Some speakers also stressed the need to cut subsidies for fossil fuels, which were three times bigger than subsidies for renewable in 2012, according to the European Commission. The same point was also highlighted by the EU’s Environment

Commissioner, Janez Potočnik.

How to get the numbers right

Accounting issues might also be a way of taking resources into account.

Jean-Paul Albertini from the French environment ministry reminded that waste statistics and accounting rules were very different across EU member states, preventing any real comparison. The harmonisation of waste and landfilling data, according to Albertini, should be a priority in the fight for slimming waste production.

Regarding accounting issues, Sebastien Godinot underlined the need to add externalities in GDP accounts, as natural resources expenditures are not currently included in the cost of economic growth. He insisted on the need to internalise those costs through legislation, citing biodiversity and carbon footprint.

The same point was also stressed by William Neale, a member of Potočnik’s staff. He reminded the audience that Germany already calculated the weight of waste related to GDP, and that other countries should do the same.

Including resource efficiency targets in the United Nation’s post-2015 Millennium Development Goals was also stressed. This would encourage Europe, and developed countries, to join the MDG scheme, in

which they are not yet included.

Binding targets

William Neale also gave indications as to how the July Circular Economy Package will look like.

“We kept the waste hierarchy, it’s still legitimate. But the scope of the package to come should be broader than waste,” he said.

He also said that a binding target of 70% of waste recycling could be a good option, and that the idea of targeting zero landfill was a good idea. “If some EU members can do it, we need to try to generalise it in the EU. Germany, the Netherlands and Sweden have the best record when it comes to recycling and avoiding landfill and incineration of waste.”

Piotr Barczak from the European Environmental Bureau (EEB) said the zero waste economy should be given a chance in the Commission package. “Even if it’s unachievable, it’s a path to take, and we do need to oblige the member states to create facilities for recycling and stop using landfills.”

The package should also provide a resource efficiency target for public procurement, Neale said. This is the most ambitious part of the package, as a third of the European economy relies on public contracts.



Photo: Aline Robert

Fitting e-waste into the circular economy

Phones, computers, washing machines - integrating a few core principles, such as the waste hierarchy, into the manufacturing of these products can reduce their environmental impact and allow for a functioning circular economy, according to analysts.

Every year, manufacturers release new and updated electronics onto the market, and consumers rush to keep up, leaving behind large numbers of unwanted and unused products.

Many are left hidden away in drawers or make their way to landfill, while companies source more raw materials, such as metals and oils for plastics, to supply the market.

The mining of these resources has limits, and the manufacturing of new products places an enormous burden on the environment. An estimated 80% of the environmental impacts of an electronic product are determined in the design phase, through the consumption of energy and other resources, such as water, waste generation, and the release of hazardous substances.

The production of one computer requires an estimated 240 kilograms of fossil fuels, 22 kg of synthetic chemical compounds and 1,500 litres of greywater.

The resource consumption associated with creating a new electronic device is far greater than any gains from more efficient design.

“In case of a 10% increase in the energy efficiency of a new notebook as compared to the older one, replacement of the older notebook can only be justified after 33 to 89 years, if environmental concerns are considered,” according to a 2011 study by

the Öko-Institut, commissioned by the German Federal Environment Agency.

Stéphane Ardit, of the European Environmental Bureau, a grouping of environmental NGOs, suggested three ways to improve the impact of the electronics industry, in line with the EU's waste hierarchy; extending the life time of products, reusing products and materials, and recycling.

Arditi called for possible requirements - such as a minimum life time, the maintenance of performance over time, the possibility to replace critical components and the upgrading of parts - to discourage manufacturers from employing tactics such as “in-built obsolescence”, which require consumers to continue buying new products.

“[Many of] our products are not designed to be repaired in the first place,” said Stéphane Ardit, at the EU's annual environmental conference, Green Week. He also suggests possible requirements for disassembly and the material separation of products, the avoidance of glue or welding of parts, the availability of spare parts and an index of the materials used in a product, to allow for better recycling.

Responsibility for waste

Part of the circular economy process requires somebody to take responsibility for the discarded material.

This has led to creation of ‘extended

producer responsibility’ (EPR), a system used in a number of companies in Europe and worldwide, requiring companies to take responsibility for the recovery of the products they put on the market.

There are many different ways in which EPR is carried out in Europe but it has led to an increase in electronics recycling.

“EPR has been a catalyst for scaling up and modernising the WEEE collection and recovery sector,” said Raphael Veit, of research company Sagis Ltd, referring to the waste of electric and electronic equipment.

However, he said, the circular flow of materials requires “more than producer responsibility”, as a number of different organisations are involved in the recovery, buying and selling of discarded electronic materials, from municipalities to collection companies.

“All parties involved in collection and treatment need to be carefully taken into account and where necessary regulated in view of closing the loop without leading to market distortions,” he said at the Green Week conference.

The European Commission is currently preparing a “circular economy” package, which is expected to be published in July.

The package includes updates of current waste legislation and mooted resource efficiency goals, such as increased targets for recycling.



Photo: Curtis Palmer/Flickr

Potočnik: 'Subsidies to energy and water use raise barriers to a circular economy'

EU environment commissioner Janez Potočnik contends that a circular economy model is not just a realistic goal for the EU, but is "inevitable". Reducing Europe's waste using "tried and tested" methods is going to be a key issue for the next Parliament's mandate.



Janez Potočnik is the EU Commissioner from Slovenia, in charge of the environment. He was European Commissioner for Science and Research from 2004-2010 and of the Environment from 2010-2014. He spoke with EurActiv France's Aline Robert.

Is a circular economy just a nice idea, or a real evolution for the European economy?

It is inevitable.

Firstly, because we are a densely populated continent and we use so many resources. Sixteen tonnes of resources per person, per year. And three tonnes of that ends up in landfills. We are locked in old industrial patterns of production and consumption.

Secondly, because resources and energy

are getting more and more expensive. After a century of declining prices, resource prices began to rise sharply as the century closed. Real prices for resources increased by more than 300% between 1998 and 2011. 87% of European companies expect this trend to continue in the next five years.

Thirdly, already today, resources are the dominating factor in the cost structure. For example, in German industry, 43% of the total costs can be attributed to the use of resources, and only 18% to the cost of labour.

And fourthly, Europe is an import-dependent, when it comes to energy and many of those resources. We import more than half of all the materials we use. And that dependency is increasing - we import all the rare earth metals we need for smart technologies, for example.

Producing the products using less energy, less water, fewer raw materials, producing reusable and recyclable products makes economic sense. It is not by protecting the environment that we will push our industry out of Europe, it is just the opposite. By respecting it, we will create conditions that (mean the) European industrial sector will remain globally competitive - in Europe. To remain competitive, we need change.

What are the most important topics on the green agenda for the EU?

The priorities for the coming years are set out in the proposal for the 7th Environmental Action Programme, which will guide environment policy until 2020. The aim is to enhance Europe's ecological resilience and transform the EU into an inclusive and sustainable green economy.

The key features include protecting natural capital, supporting resource efficiency, and accelerating the transition towards a low-carbon economy. The programme also seeks to tackle environmental causes of diseases. The results should help stimulate sustainable growth, and create new jobs, to set the EU on a path towards becoming a better and healthier place to live.

An EU citizen produces on average 6 tons of waste per year, and the trend is

growing. How can this issue be tackled?

'Decoupling' is the word. We have to find ways of maintaining growth while using fewer resources. This week, the International Resource Panel will be releasing a new report on decoupling, and it makes for interesting reading.

Their previous reports have warned that increases in population and prosperity will put humanity on track to consume 140 billion tonnes of minerals, ores, fossil fuels and biomass per year by 2050, unless economic growth is decoupled from resource consumption. This is three times the levels of consumption in 2000, and most likely exceeds all existing available resources and the limits of the planet to absorb the impacts of extraction and use.

What they are doing now is identifying the real barriers to decoupling, especially things like subsidies for energy and water use, outdated regulatory frameworks, and technological biases. But the good news is that there are cures for problems like that - we just need to convince governments of their feasibility.

Is it important to use price-based instruments for pollution control, such as a fee on plastic bags or carbon tons?

Economic instruments are tried and tested ways of solving environmental problems. Perhaps the biggest problem the environment faces is the idea that there is no cost in hurting it - as if air pollution, water pollution, waste etc. were crimes without victims - they are the opposite, as we all suffer. So economic instruments try and put a price on these externalities, which ultimately prevent them from happening.

There are lots of types, and lots of proof that they work. Waste management, sound waste management plans and waste prevention programmes, and economic instruments such as "pay as you throw" schemes, landfill taxes, deposit refund systems, producer responsibility schemes and so forth, are all tried and tested methods. They have been shown to work very effectively in EU member states that now have very high recycling rates such as Germany, the Netherlands, Austria, Sweden and Belgium.

The sustainable sourcing of materials is crucial to the circular economy

The sustainable sourcing of raw materials is a crucial phase at the beginning of the economic cycle. Yet this initial sourcing phase has so far been largely neglected by targeted EU resource efficiency policies. “But it’s time for change,” said WWF, Unilever and the Alliance for Beverage Cartons and the Environment (ACE).

This opinion piece was co-authored by the WWF, an environmental non-governmental organisation, Unilever, a food and drink multinational, and the Alliance for Beverage Cartons and the Environment (ACE), an industry association.

A lot of ink has been used up over resource efficiency – now part of that elite policy group of EU 2020 strategies. And not surprisingly. “Today in Europe we are consuming the equivalent of 2.8 planets worth of natural resources, and yet we have only one planet, meaning we are in serious resource debt,” says Tony Long, Director of WWF’s European Policy Office, on the occasion of Green Week. Yet despite all the political hype surrounding the issue, the EU has left some pretty large gaps in its practical response to the challenge.

ACE, WWF and Unilever agree that sustainable sourcing is key to unlocking the potential for a circular economy and a prerequisite in order to build a resource-efficient society in Europe and other regions. For sustainable sourcing to

make an optimal contribution to resource efficiency and Europe’s circular economy, the EU has to step in. The EU should use its position as one of the largest markets in the world to promote policies and strategies that drive a sustainable management of natural resources worldwide. It should also support the sustainable and transparent use and trade of resources and products by promoting responsible consumption.

Hence a joint call is being made by ACE, Unilever and WWF for “the EU to develop ambitious principles and standards for sustainable sourcing.” With focused EU support, “sustainably sourced materials can become the market standard, rather than the niche they currently are,” says Christiaan Prins, Unilever’s European External Affairs Director. Appropriate legislation, which could in part base itself on lessons learned from existing voluntary agreements on sustainable sourcing, could trigger the spread of such practices Europe-wide.

This doesn’t mean however that the EU’s contribution to date should be overlooked. The contribution of EU waste policies to the circular economy is one to highlight. Levels of recycling have progressed dramatically in recent years with attendant gains for resource efficiency, as secondary raw materials substitute some of the demand for virgin resources. All good of course, but with new and ambitious material recycling rates expected in the upcoming review of EU waste legislation, the scope for further action will tend to narrow and reach inevitable limits.

This is not true at the other end of the product life cycle. Here, at the sourcing phase, the scope for action on sustainability remains great, its potential contribution to

sustainable production largely untapped, and the case for action is strong.

“If their depletion and misuse are to be avoided,” says ACE Director General Katarina Molin, “natural resources need to be efficiently and acceptably sourced – and demonstrably so. Even the positive impact of recycling could be undermined if recycled materials fail to show they have been sustainably managed at the outset.” Hence the importance of third party verification of ACE’s voluntary commitment to source all wood fibre for beverage carton production, from FSC certified or FSC controlled wood sources by 2015. First created by ACE beverage carton manufacturers in 2007 and independently tested since, the commitment had by 2013 reached 93% of its final 100% target.

Similarly, Unilever is committed to source 100% of its raw materials sustainably by 2020. As well as protecting the planet’s natural resources, sustainable sourcing helps Unilever to manage a core business risk by ensuring security of supply for the long term. “By end last year, 48% of our agricultural raw materials were sustainably sourced, and we had engaged with 570,000 smallholder farmers to this end,” says Prins. “Good progress but more to do,” he comments.

Indeed the EU should leverage its international market clout to drive the sustainable management of natural resources not only in Europe but worldwide. “In this way Europe would begin repaying the planet’s massive resource debt,” says WWF’s Long, “without this commitment not only nature suffers, but so will people, businesses and the economy impacted by rising prices due to resource scarcity.”



Photo: Sunlover/Shutterstock

EU touts 70% recycling and zero landfill law for 2030

Europe could be recycling 70% of its municipal waste by 2030, if a binding proposal that would phase out the environmentally harmful practice of landfill disposal is approved by the European Commission this month, EurActiv has learned.

The bloc is already committed to recycling half of its waste and “virtually eliminating” landfill by 2020, but while Germany’s recycling and composting rate stands at 65%, Romania’s is just 1%. In general, the EU’s north and west recycles more than its south and east.

A senior EU official told EurActiv that the proposed new regulation to be signalled in a circular economy on 1 July, should bring all EU states up to the level of today’s best-performers.

“If you look at Austria now, there’s 70% recycling and virtually zero landfill and we want to drive towards that in 2030 for all member states,” he said. “The problem is that some states are already there while with others, you can reverse the figure and say at least 70% landfill and virtually no recycling.”

“We need to use the experience of the best performers, look at how quickly they were able to travel towards that target and set an objective that’s realistic,” he added.

Landfill rates would be reduced to less than 5% under the proposal – covering ‘the residues of the waste residues’ that cannot otherwise be disposed of – with incineration taking care of the rest, despite environmental concerns about the practice.

It is unclear whether states such as Germany would still be able to omit counting the landfilling of incinerated



Photo: United Nations/Flickr

ashes and waste residues under the proposed new regime.

The proposal, which is currently going through inter-service consultations, is consistent with recommendations made by the European Resource Efficiency Platform earlier this year.

As EurActiv revealed in March, the new package will also involve doubling a business as usual trajectory, under which

raw material efficiency would rise to 15% by the end of the next decade.

Commission agreement

This new legally-binding 30% target would be measured by counting raw material consumption as a percentage of

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GDP, the source said. But “whether we can agree that within the Commission is another issue,” he cautioned, “because it is so complex and involves so many different areas of policy.”

The circular economy proposal is intended to prolong the use of products at the end of their natural lifecycle and cuts across Commission boundaries, affecting directorates such as energy, research, agriculture and competition.

EurActiv understands that it will be jointly launched by the environment commissioner, Janez Potočnik, and the research innovation and science commissioner, Máire Geoghegan-Quinn.

There will be no goals for hazardous waste or phosphorous use in the package and targets for marine litter and food waste will be non-binding – although recommendations for the latter will be made in a separate proposal made on the same day as the circular economy one.

But the idea is a challenge to the ‘throwaway society’ model of over-consumption that sustains some industrial practices, and opposition is likely from within and without Brussels.

‘Targetitis’

“There is quite a degree of scepticism about targets and ‘targetitis,’” the official conceded. “People think there are too many targets and that they won’t be coherent with other targets. I can foresee that we will have discussions in terms of whether we need a target, and what it will be.”

The UK is one member state which has already set out its stall against new legislation on waste disposal, citing ‘insufficient evidence’ to support 2030 goals, and calling instead for “reducing regulatory burdens for business”.

A UK government response to the Commission review said, “We are aware that in poor economic times, a number of member states are not currently on course to meet the 2020 targets. The European Commission should find ways to help

member states implement existing targets before setting new targets.”

Officials though are quick to point out that the proposed circular economy package is coherent with EU legislation on 2020 policy and targets, Ecodesign legislation, reindustrialisation targets, research objectives and climate and energy goals.

The focus of any disagreement would be on “details” rather than substance, they argue.

Winners and losers

“Everybody is convinced by the theory and idea [of resource efficiency] and fact that it is inevitable but when it comes down the specifics you get winners and losers,” the official said. “You will need to move to new business models, new technologies and things like sharing and leasing, which really contradict the idea of just selling stuff on markets. Many countries will lose out if they don’t adapt.”

They would not necessarily be losers though, he added, as by investing early they would avoid hitting the walls of changing consumer behaviour, supply shocks and commodity price booms.

“If you take the primary raw extractive industries as an example, they’re worried that they will lose out if they sell less stuff or extract fewer raw materials,” the official continued.

“We are telling them that their products are so much in demand because of middle class consumption – and there will be three billion extra middle class consumers by 2030,” he said. “The demand for raw materials is going to be so high - and we in Europe will be in such competition for those resources - that we have to do something about the efficiency of our resource use.”

In 2008, the environmental group WWF estimated that the annual ecological overshoot could only be accommodated by the equivalent of 1.5 planets.

The question of who funds the correction may now take centre stage in the waste recycling debate.

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