QUANTIFYING JOBS FROM THE CIRCULAR ECONOMY IN PARIS Summary

Well aware of the environmental, social and economic stakes of preserving natural resources and ending waste, in July 2017, the City of Paris adopted a circular economic strategy, a key element in its commitment to the region's energy and ecological transition.

Currently, the idea of a circular economy has a regulatory framework defined by the law from August 17, 2015 related to energy transition for green growth, it "aspires to surpass the linear economic model, which consists of extracting, creating, consuming and discarding, by calling for the restrained and responsible consumption of resources (raw materials, water, energy) as well as, in order of priority, the prevention of waste production, specifically by repurposing products, and, according to the hierarchy of waste treatment methods, reuse, recycling or, in the absence there of, waste recovery."

This transition is accompanied by the development of new production and consumption methods generating business and the creation of sustainable and non-outsourced jobs. That is why the creation of jobs enabled by the development of the circular economy in the Parisian region and the value-creation that will result from this was defined as tracking indicators for Paris's circular economy plan.

Evaluating jobs from the circular economy does not represent an easy process; the activities from this domain are only partially related to the classifications for statistical activities, such as recycling, for example.

The quantification of jobs from the circular economy thus gives rise to a two methodological issues: what are the activities to retain in order to represent the reality of the circular economy and what statistical sources and processing should be mobilised in order to evaluate the content in jobs within this scope of activities?

This quantification is based on the method developed by the National Centre for Jobs and Professions from the Green Economy (Onemev). In order to categorise jobs from the circular economy, we are distinguishing between:

- Activities from the core of the circular economy, distributed according to the 7 pillars defined by Ademe (sustainable supply, eco-design, industrial and territorial ecology, product-service systems, responsible consumption, extended usage periods and recycling);
- "Related" activities that contribute to savings in energy or resources (energy control, renewable energy, waste incineration with energy recovery and a portion of activities related to transportation infrastructures).

Results

The number of direct jobs from the circular economy in Paris in 2016 was **66,500** positions (full-time equivalent).

These jobs from the circular economy represent **2.9% of Parisian jobs** (compared to 3.4% at the national level). And they generate an annual added value of **€7 billion.**

	RESPONSIBLE CONSUMPTION	PARISIAN JOBS FROM THE CIRCULAR ECONOMY PER PILLAR – 2016		
RELATED ACTIVITIES		**Responsible consumption** 7,274	**Repairs** 4,878	**Reuse/second-hand goods** 1,216
	EXTENSION OF USAGE PERIODS	**Waste collection and treatment** 4,683	**Recuperation and sale of secondary raw materials** 447	**Recycling/recovery** 317
66,477	**RECYCLING**	**Renewable energies** 3,635	**Energy control** 1,296	**Waste (incineration and energy recovery)** 678 **Transportation** 42,053
		3% of Parisian jobs produce an added value of €7 billion		

18,800 full-time equivalent jobs were counted among activities at the core of the circular economy and 47,600 full-time equivalent jobs were evaluated under "related" activities, including a majority in the sector of public transportation (nearly 40,000 full-time equivalent jobs).

The pillars of responsible consumption (essentially rentals) and extending usage period (repairs, reuse) approach 14,000 jobs. Undoubtedly, these are underestimated due to the methodological limitations that barely comprehend the totality of the domains making up the circular economy directly from statistical classifications.

Similarly, due to their cross-disciplinary character and the fact that they fall under an economic model process or choice and not from the heart of a company's activity, it is particularly difficult to allocate a portion of employment to eco-design, industrial and territorial ecology and product-service systems.

If we examine the jobs from the circular economy by business sector and according to the classification "divisions" for French businesses or principally exercised activities (the first two digits in the APE codes), there is a strong concentration in public transportation and rental-lease activities in the Parisian region.

Division code	Economic division	Paris jobs (Full-time equivalent)
49	Ground and road transportation	39,078
77	Rental and rental-lease activities	7,274
38	Collection, processing and elimination of waste; recovery	5,699
43	Specialised construction	3,177
95	Computer, personal and domestic objects repair	2,406
45	Automobile and motorcycle commerce and repair	1,963
42	Civil engineering	1,495
35	Production and distribution of electricity, gas, steam and air conditioning	1,256
47	Retailers, with the exception of automobiles and motorcycles	1,169
50	Water transportation	818
Other	Remaining sectors (3%)	2,142

PLAN ÉCONOMIE CIRCULAIRE de PARIS

Thanks to purchases with suppliers, salaries and taxes paid, these jobs support **109,500 additional full-time jobs** (indirect and induced). Consequently, a total of 176,000 full-time jobs are related to the circular economy in the Parisian region, e.g. approximately 7.5% of Parisian jobs.

Thus, we estimate that for **each job directly under the circular economy, 1.6 additional jobs** are supported in the Parisian economy.

Methodological information

In order to quantify the number of direct jobs from the circular economy, the City of Paris decided to adapt Onemev's methodology, conducted by the Service for Observations and Statistics (SoeS) under the General Commission on Sustainable Development (CGDD). Indeed, it is the most fully developed and serves as a basis for the job indicator, which at the national level is one of 10 key indicators for monitoring the circular economy.

Since the circular economy is part of the green economy, Onemev adapted the job accounting methodology from the green economy, including a portion of its activities as well as industries such as extended producer responsibility, industries incorporating secondary raw materials, business sectors listed by France Stratégie under repair, rentals and second-hand businesses, and an additional selection of products issued from industrial annual yield surveys (Insee, EAP).

Quantifying jobs takes place according to three different approaches.

- By business sector: Parisian jobs in sectors such as rentals, repairs, second-hand retail, transportation operations, secondary raw material industries, waste collection; with the application of value-creation ratios provided by ADEME for the last two sectors.
- By products: level of production for products falling under the circular economy offset by Paris's manufacturing ability (for example: recycled paper, spare parts, etc.).
- By establishment: jobs in Parisian establishments (mainly concerns eco-organisations).

The LOCALFOOTPRINT® analysis tool, developed by the UTOPIES firm, makes it possible to evaluate the number of jobs supported in the remaining local economy through direct jobs in the circular economy:

- Indirect jobs, supported by the supply chain;
- Induced jobs, supported by consumption expenditure related to direct and indirect jobs and public expenditure generated by the taxation of businesses falling under the circular economy or its supply chain.

This tool also makes it possible to vary the analysis of the multiplying effect in terms of added value created directly or indirectly and induced by the circular economy.

Focus on responsible consumption in Paris

Task 15 from the 1st roadmap on responsible consumption in Paris aspired to promote structures that propose a responsible offer and new distribution or sharing methods such as local food networks, ethical and responsible businesses, cooperative supermarkets, creating value in unsold goods and repurposing activities. It also defines the creation of jobs within these structures as an impact indicator.

An inventory was drawn up of responsible consumption activities in Paris. It was based on the astute understanding of the regional stakeholders. The database was established using a data extract from the landscape of stakeholders working in the solidarity and innovative economy carried out by les Canaux and APUR and data regarding structures supported by the city of Paris.

169 Responsible consumption initiatives indexed

1,556 full-time jobs in responsible consumption

169 "responsible consumption" activities, not indexed by the Onemev's base methodology, were thus indexed. They represent 1,556 full-time jobs. This represents the situation on January 1, 2018, which, although not exhaustive and unrelated to the same reference years, provides a supplementary perspective and gives a good idea regarding the potential of jobs from new economies localised in the Parisian region.

Perspectives

Transposing Onemev's methodology for counting the number of jobs from the circular economy at a subnational level was a first in France. It was adapted in order to specifically make it possible to alleviate the difficulties of statistical confidentiality at the local level. It will be necessary to monitor the work at the national level as well as the work from other regions in order to take into account the potential methodological changes the next time the indicator is updated.

The more qualitative approach for counting jobs related to responsible consumption in Paris makes it possible, in part, to respond to the constraints of the base methodology in order to quantify these jobs. It provides an interesting perspective on the dynamic for developing initiatives related to responsible consumption and new distribution and sharing methods, specifically in a dense urban setting like Paris. It requires a good understanding of the region in order to make an inventory of the stakeholders as well as better evaluate these evolutions over the long term.

Lastly, statistical tools still have difficulty today in monitoring and quantifying the various initiatives in favour of developing the circular economy, such as internal initiatives in companies as well as new activities and business models that are being built around the circular economy. Additional data measurement and collection tools still need to be built in order to have a better idea regarding the job stock and in order to measure the changes that are already in the process of taking effect with new professions and new activities related to the circular economy.

CITY OF PARIS

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AND THE ENVIRONMENT

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URBAN ECOLOGY AGENCY