

The circular economy : Algeria towards a new approach

Toumi Chiraz

ECOLE SUPERIEURE DE
COMMERCE , ALGIERS

Crztn23@gmail.com

Abstract ;

The shift towards a circular economy represents a pivotal moment in global economic development, marked by a transition from linear resource consumption to a more sustainable and regenerative model. This paper explores the significance of this emerging convergence towards a circular economy, particularly focusing on its importance in addressing pressing environmental challenges, fostering economic resilience, and promoting social inclusivity. By reimagining production and consumption patterns, the circular economy offers pathways to mitigate resource scarcity, reduce waste generation, and minimize environmental degradation. Moreover, it presents opportunities for innovation, job creation, and economic growth, thus enhancing competitiveness and long-term prosperity. Additionally, the circular economy fosters collaboration among diverse stakeholders, including governments, businesses, and civil society, in pursuing common sustainability objectives..

Article info

Received

28/02/2024

Accepted

29/03/2024

Keyword:

- ✓ Circular economy;
- ✓ waste management;
- ✓ waste recovery;
- ✓ sustainable development, Algeria.

1. Introduction

In Algeria, waste management is a major issue that requires particular attention because of its impact on the environment, public health and sustainable development. With a growing population and increasing urbanisation, waste production has risen considerably over the last few decades.

Waste in Algeria is mainly generated by urban, industrial, commercial and agricultural activities. Municipal waste, including household refuse, accounts for a significant proportion of the total waste stream. However, other types of waste, such as industrial waste, construction waste and electronic waste, also pose significant management and treatment challenges.

Unfortunately, waste management in Algeria suffers from a number of shortcomings, including a lack of adequate infrastructure, financial resources, public awareness and effective regulations. As a result, a large proportion of waste ends up being poorly collected and sorted, and is often dumped in open dumps or uncontrolled landfill sites, leading to environmental pollution and risks to public health.

However, despite these challenges, initiatives are underway to improve waste management in Algeria. Algeria is embarking on a promising path by embracing the principles of the circular economy, marking a significant step forward in its commitment to sustainable development and environmental protection. The transition to a circular economy represents a paradigm shift, where the traditional linear model of production and consumption is replaced by a regenerative system aimed at minimising waste, maximising resource efficiency and fostering economic resilience.

In Algeria, as in many countries around the world, the imperative of transitioning to a circular economy is becoming increasingly apparent. As the country faces environmental challenges such as waste pollution, resource depletion and climate change, there is a growing recognition of the urgent need to adopt innovative and sustainable approaches to address these pressing issues.

2. Definition of waste

Campan2007 defined waste in the dictionary as a "decrease in quantity or value". More precisely, in 1972, the same dictionary described it as "Discredit", "Decrease". In 1988, in the latest edition, a detailed definition was proposed: "that which falls from a material being worked, wool waste. Loss, irretrievable part of something: fruit crates containing waste. A debased person, morally and physically degraded, a waste of humanity" [Campan, 2007, p.6]. Bahers [2012] has also discussed the definition of waste in different languages. In English, it is associated with dust, "dust", or an organic origin, "garbage", with an action akin to waste or loss, through the verb "to waste" (the common noun "waste" is translated by "déchet" in French). In German, it is similar to English, with the word "Müll" derived from the old word

"Mold" meaning dust, and another term closer to the French meaning being "Abfall" derived from the verb "abfallen" indicating the action of decreasing or falling [Bahers, 2012].

Definition from an economic point of view

Maystre et al. [1994, p.120] have given an economic definition of waste, describing it as "a material or object whose economic value is zero or negative for its holder, at a given time and in a given place". However, this notion of zero value remains relative. According to Cheniti [2014, p.20], this relativity is illustrated by the fact that "When something loses its primary function for a user, it will become waste, however, one person's waste can serve as secondary raw materials for the manufacture of other products and even goods for other people or communities". The zero value of waste depends on the state of the art of technology and where it is generated [Cheniti 2014]. Sometimes its value can be negative because of the high cost of disposal.

Legal definition

In the legal context, Ngnikamet Tanawa.[2006, p.20] have distinguished two angles: a subjective angle and an objective angle. 51 From the subjective point of view, waste is that "a good becomes waste when its owner has the will to get rid of it; it remains his as long as it has not left his property, but as soon as it is deposited on the public highway or in a rubbish bin, it becomes the property of the municipality, because by this act its owner may have clearly signified his will to give up all right of ownership of it". But from an objective point of view, waste "is a good whose management must be controlled for the protection of public health and the environment, regardless of the owner's will or the economic value of the good: recyclable goods that are secondary raw materials fall within this definition". The legal definitions are all similar and converge towards a single meaning: waste is the residue of a process of use or an abandoned good. The following section sets out the legal definitions of waste for several countries (France, Algeria). Article 1 of Law N°75-633 of 15 July 1975 on the elimination of waste and the recovery of materials in France defined waste as : "any residue of a production, transformation or use process, any substance, material produced or, more generally, any movable property abandoned or which its holder intends to abandon and which is likely to produce harmful effects on the soil, flora and fauna, to degrade sites or landscapes, to pollute the air or water, to generate noise or odors and in general, to harm human health and the environment" *Environnement revue* [1976, p.104]. In Algeria, the first legal definition appeared in Article 89 of Law No. 83-03 of 5 February 1983 on environmental protection, which states that waste is: "Any residue of a production, transformation or use process, any substance, material, product or, more generally, any property, movable or abandoned or that its holder intends to abandon" *JORADP* [1983, p.25]. After the promulgation of laws in 2001 on waste management, Algerian regulations provided a more precise definition than the previous law. Law No. 01-19 of 12/12/2001, article 3 of the *Journal officiel de la république Algérienne* No. 77 (2001) defines waste as: "any residue of a production, transformation or use process, and more generally any substance or product and any movable asset that the

owner or holder discards, plans to discard, or is obliged to discard or dispose of. The diversity of consumer products now exceeds biodiversity" JORADP [2001b, p.2].

3. Legal framework and context for waste management

Algeria's waste management policy is rigorously applied, with a set of regulations in force since 1984. These measures fall into three distinct categories: decrees, laws and agreements.

- Law no. 01-19 of 12 December 2001 on the management, control and elimination of waste: this law is based on the principles of organising waste collection, developing recycling channels and eradicating illegal dumps, as well as waste prevention and reduction, and improving information and awareness of the risks posed by waste.
- Decree no. 84-378 of 15 December 1984 This is the first legal text on waste management. This decree sets out the conditions for the cleaning, removal and treatment of solid urban waste. It also sets out the definitions of solid urban waste and its composition, as well as the procedure, frequency and timetables for collection and disposal of household waste, as well as its destination and treatment (supervised landfill, controlled landfill, composted landfill, crushed landfill, composting, incineration) , 1984]. The decree also defines the stages involved in selecting the treatment site and its layout, and even the conditions for monitoring it.
- Decree No. 02-372 of 11 November 2002 The purpose of this decree is to define the procedures for the recovery of waste by its generator or holder and the conditions for waste disposal. It sets out the procedures for creating, organising, operating and financing the public system for processing packaging waste [JORADP, 2002]. It requires generators and/or holders of packaging waste to choose between the following processes: self-recovery, recovery company.
- Decree No. 04-199 of 19 July 2004 This decree sets out the terms and conditions for the creation, organisation, operation and financing of the public system for the return and recovery of packaging waste 70 (Eco-Jem). The aim of this system is to organise the take-back and processing of packaging waste, through service contracts for the collection, sorting and recovery of this waste. The national waste agency is responsible for setting up the system. [JORADP, 1934].
- Executive Decree No. 04-410 of 14 December 2004 This lays down the general rules for setting up and operating waste treatment facilities and the conditions for admitting waste to these facilities.
- Executive Decree No. 07-205 of 30 June 2007 This decree sets out the terms and procedures for drawing up, publishing and revising the municipal plan for the management of household and similar waste. It also sets out the procedures for drawing up, publishing and revising the municipal scheme for managing household and similar waste.

There are other decrees for the creation of several institutions specialising in the field, such as :

- Decree No. 02-262 of 17 August 2002 creating a national centre for cleaner production technologies (CNTPP). - Decree No. 02-263 of 17 August 2002 creating a conservatory for environmental training (CNFE). - Executive Decree N°02-115 of 02 April 2002 creating the National Observatory for the Environment and Sustainable Development (ONEDD).
- Decree No. 02-31 of 11 November 2002 creating the Biological Resources Development Centre (CDRB). Other executive decrees on special waste have been promulgated: - Executive Decree No. 06-104 of 29 Moharrem 1427 corresponding to 28 February 2006 establishing the waste nomenclature, including hazardous special waste.
- Executive Decree No. 09-19 of 23 Moharrem 1430 corresponding to 20 January 2009, regulating the collection of special waste. It sets out the provisions relating to the approval of persons wishing to carry out this activity, as well as their rights, obligations and supervisory powers.
- Executive Decree No. 03-477 of 15 Chaoual 1424 corresponding to 9 December 2003 on the methods and procedures for drawing up, publishing and revising the national special waste management plan.
- Presidential Decree No. 05-119 of 11 April 2005 on radioactive waste management. - Executive Decree N°05-314 of 10 September 2005 fixing the methods of approval of the groups of producers and/or holders of special waste. - Executive Decree N°05-315 of 10 September 2005 laying down the procedures for declaring hazardous special waste.
- Executive Decree No. 06-104 of 28 February 2006 establishing the nomenclature of waste, including hazardous special waste.
- Presidential Decree N°06-170 of 22 May 2006 ratifying the amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, adopted in Geneva on 22 September 1995.
- Interministerial order of 2 September 2013 setting the technical characteristics of hazardous special waste labels

4. CURRENT SITUATION: WASTE IN ALGERIA

An overview of the statistics on waste generated in Algeria reveals a significant increase in waste production over the years. According to official data provided by the Ministry of Spatial Planning and the Environment (MATE), the production of urban solid waste in Algeria amounted to around 14 million tonnes in 2016. This production has grown steadily over recent decades, reflecting rapid urbanisation and rising consumption.

It is important to note that the amount of waste generated varies from region to region, with densely populated coastal towns generally producing greater quantities than rural or less populated areas.

The available data also indicates that waste management remains a major challenge in Algeria, with shortcomings in waste collection, treatment and disposal infrastructures. This often leads to environmental problems such as soil and water pollution, as well as risks to public health.

However, initiatives are underway to improve waste management in Algeria, including the introduction of stricter policies and regulations, the development of waste management infrastructures and the promotion of waste recycling and recovery.

5. Waste management policy in Algeria

The Algerian government has undertaken a number of initiatives to improve waste management and recovery in the country. These efforts include introducing stricter policies and regulations, strengthening waste management infrastructure, and promoting sustainable waste management practices.

The measures taken include

- The adoption of environmental laws and regulations governing the collection, treatment and disposal of waste, as well as pollution prevention.
- Investment in the development of waste management infrastructure, such as sorting centres, composting plants, energy recovery facilities and controlled landfill sites.
- Raising public awareness of the environmental issues associated with waste management, in particular through awareness and education campaigns.
- Promoting the recycling and recovery of waste, by encouraging the introduction of selective sorting programmes and supporting initiatives to recycle and recover materials.
- Working with the private sector, non-governmental organisations and local communities to implement innovative and sustainable waste management solutions.

These efforts demonstrate the Algerian government's commitment to meeting the challenges of waste management and promoting sustainable development in the country. However, challenges remain and require continued and coordinated action by all stakeholders to further improve waste management and recovery in Algeria.

6. Circular economy players

In Algeria, a number of players are involved in promoting the circular economy and implementing sustainable resource and waste management practices. These players include

- **The government:** The Algerian government plays a central role in promoting the circular economy through the adoption of national policies, regulations and strategies aimed at encouraging the transition to a more circular economic model. It also supports local and regional initiatives to promote the circular economy.
- **Businesses:** Many businesses in Algeria are engaged in circular economy practices, such as reusing materials, recycling, recovering waste, and designing sustainable and resource-efficient products. Some companies are also developing innovative business models based on the circular economy.
- **Non-governmental organisations (NGOs):** NGOs play an important role in raising public awareness of circular economy issues and promoting sustainable consumption and production practices. They run awareness campaigns, provide advice and training, and support local projects to promote the circular economy.
- **Universities and research centres:** Academic and research institutions in Algeria are also involved in promoting the circular economy through research, innovation and training. They carry out studies on best practice in the circular economy, develop new technologies and solutions, and train the future players in the circular economy.

Together, these players are helping to promote a circular economy in Algeria, by encouraging more efficient use of resources, reducing waste and pollution, and creating new economic and social opportunities.

7. The impact of the circular economy on the country's economy

The economic impact of the circular economy on the Algerian economy can be significant and positive in several respects:

- **Job creation:** The transition to a circular economy can stimulate job creation in sectors such as recycling, repair, remanufacturing, and waste management. This could help reduce unemployment and boost economic growth in Algeria.
- **Reducing costs:** The circular economy aims to optimize the use of resources and reduce waste, which can enable companies to make savings on raw materials, energy and production costs. This could improve the competitiveness of Algerian companies on national and international markets.

- Creation of new industries and business opportunities: The transition to a circular economy can foster the development of new industries and economic sectors, such as recycling, sustainable product design, waste management, and environmental technologies. This could diversify the Algerian economy and stimulate innovation and entrepreneurship.
- Reducing dependence on natural resources: The circular economy encourages the reuse, recycling and recovery of existing resources, which can help to reduce Algeria's dependence on natural resources and alleviate pressure on the environment.
- Improving economic competitiveness: By adopting circular economic practices, Algeria could strengthen its economic resilience, reduce its vulnerability to fluctuations in raw material prices, and improve its competitiveness on world markets.

In summary, the circular economy offers significant opportunities to stimulate economic growth, create jobs, reduce costs, diversify the economy and promote sustainable development in Algeria. However, its implementation requires a sustained commitment from public authorities, businesses and civil society, as well as investment in the necessary infrastructure, technologies and skills.

7. CONCLUSION

In conclusion, the adoption of the circular economy is of vital importance for preserving the environment and building a sustainable future in Algeria. This transition to a more circular economic model offers many advantages, both environmentally and economically and socially.

By conserving natural resources and reducing waste, the circular economy helps to limit pressure on the environment, mitigate the effects of climate change and protect biodiversity. It also helps to reduce air, water and soil pollution, and preserve people's quality of life.

In economic terms, the circular economy offers significant opportunities to stimulate economic growth, create sustainable jobs and strengthen the competitiveness of businesses. By promoting innovation, entrepreneurship and economic diversification, it can also contribute to economic resilience and reduce dependence on natural resources.

Finally, on a social level, the circular economy can foster social inclusion by creating local jobs, strengthening people's skills and capabilities, and promoting the active participation of civil society in resource and waste management.

In short, the adoption of the circular economy is essential to ensure sustainable development in Algeria, by reconciling economic, social and environmental imperatives. It represents a unique opportunity to build a fairer, more prosperous and more environmentally friendly future for generations to come.

5. **Bibliography List :**

1. **Books :** author's name (year), full title, publishing, country;
2. **Theses:** researcher, thesis title, college, university, country, year;
3. **Journal article :** author's name (year), full title of the article, review name, place, volume and number ;
4. **Seminar article:** author's name (year), full title of the paper, title of seminar, place and date, country ;
5. **Internet websites:** author's name (year), full title of the file, detailed web site : <http://fulladdress> (consulted on day/month/year).

6. **Appendices**

<https://gurdebeke.com/valorisation-et-recyclage-des-metaux/>

<https://www.metaconcept.fr/entreprise-recyclage-et-valorisation-metaux-industriels/>

<https://www.amcsgroup.com/fr/blogs/les-tendances-mondiales-qui-faconneront-le-marche-du-recyclage-en-2023/#justice-environnementale>

<https://www.valuemarketresearch.com/fr/report/ferrous-scrap-recycling-market>

<https://www.brgm.fr/fr/actualite/article/recyclage-metaux-france-fait-aujourd-hui>

<https://emplois.ca.indeed.com/conseils-carriere/developpement-carriere/positionnement-entreprise>

<https://emplois.ca.indeed.com/conseils-carriere/developpement-carriere/strategie-dentreprise>

<https://www.cairn.info/management-des-entreprises--9782100520497-page-7.htm>

<https://marketpedia.ca/lexique/positionnement/>

<https://www.cairn.info/les-grands-auteurs-en-strategie--9782376872986-page-102.htm>

<https://www.actiz.fr/comment-calculer-le-taux-dattrition/>

<https://www.cairn.info/fiches-de-marketing--9782340060333-page-119.htm>

[File:///C:/Users/hp/Downloads/sara,+ETUDE+DES+DETERMINANTS+DE+L%E2%80%99IMA+GE+DE+MARQUE+EN+CONTEXTE+UNIVERSITAIRE+MAROCAIN%20\(4\).pdf](File:///C:/Users/hp/Downloads/sara,+ETUDE+DES+DETERMINANTS+DE+L%E2%80%99IMA+GE+DE+MARQUE+EN+CONTEXTE+UNIVERSITAIRE+MAROCAIN%20(4).pdf)

JORADP. 2003. le décret exécutif n96-60 du 27 janvier 1996, [Online].

– JORADP. 2008. Loi n08-19 du 15 novembre 2008 JORADP N63 du 16 novembre 2008 . – JORADP. 2016. code des marchés publics. Tech. rep., Available at: <https://www.joradp.dz/TRV/FMPublic.pdf>.

– JORADP. 1934. Le décret exécutif n° 93-162, [Online].

– JORADP. 1983. Loi n83-03 du 5 février 1983 relative à la protection de l'environnement p. 39.

– JORADP. 1984. Le décret n84-378, [Online]. – JORADP. 1988. Décret n 88-227 du 5 novembre 1988, [Online]

– JORADP. 1992. Loi n 92-646 du 13 juillet 1992 Article 1, [Online].

– JORADP. 2001a. Law N 01-19 on the management, control and disposal of waste, [Online].

– JORADP. 2001b. Loi n 01-19 relative à la gestion, au contrôle et à l'élimination des déchets pp. 01-19. [Original String]: Article3 de La loi N 01-19, 2001. Journal officiel de la république algériennedu12/12/ 2001. – JORADP. 2002. Le décret n 02-372 11 novembre 2002, [Online].

JORADP. 2009. Décret exécutif n 09-87 du 21 Safar 1430 correspondant au 17 février 2009 relatif la taxe sur les sacs plastiques importés ou produits localement., [Online]. – JORADP. 2011. Loi n 11-10 du 20 Rajab 1432 correspondant au 22 juin 2011 relative la commune.

– JORADP. 2012. Law 12/06 of 12 relating to associations, [Online]. – Kientga, S. 2008. Contribution du SIG à l'analyse des liens déchets-santé en milieu urbain dans les pays en développement .

– Kontos, T. D., Komilis, D. P. and Halvadakis, C. P. 2005. Siting msw landfills with a spatial multiple criteria analysis methodology. Waste management 25(8), pp. 818-832.

– Liberté. 2017. Introduction d'un master de gestion des déchets: Toute l'actualité sur liberte-algerie.com, [Online]. Available at: <https://www.liberte-algerie.com/actualite/introduction-dun-master-de-gestion-des-dechets-273797>.

– Lamarzelle, D. 2008. Management public et modernisation des services publics. Revue EUROPA

– L'ANSEG. 2014. L'agence nationale de soutien des jeunes à l'emploi Constantine, [Online].

– Laroque, P. 1933. Les usagers des services publics industriels (transports-eau-gazélectricité):droits, obligations, voies de recours étude des textes et de la jurisprudence. Recueil sirey.

- Le Dorlot, E. 2004. Les déchets ménagers : pour une recherche interdisciplinaire. Strates. Matériaux pour la recherche en sciences sociales (11).
- Le Maître, S. 2009. Gestion des déchets ménagers: du consommateur à l' "acteur-citoyen" entre contrainte et persuasion. PhD Thesis, Aix Marseille 2.
- Le Matin D'Algérie. 2016. Recyclage des déchets en Algérie : un marché de 38 milliards DA en quête d'investisseurs, [Online]. Available at: <http://www.lematindz.net/news/21342-recyclage-des-dechets-en-algerie-un-marche-de-38-milliards-da-en-quete-dinvestis.html>.
- Le soir d'Algérie. 2008. [Online]. Available at: <https://www.lesoirdalgerie.com/articles/2008/03/31/article.php?sid=66304&cid=2>.
- Lebourgeois, M. 2010. Les stratégies de communication des ONG environnementales : le cas de Greenpeace et WWF. Ph.D. thesis, Université Lumière Lyon 2, Available at: http://doc.sciencespolyon.fr/Ressources/Documents/Etudiants/Memoires/Cyberdocs/MFE2010/lebourgeois_m/pdf/lebourgeois_m.pdf.
- Leguay, J.-P. 1999. La pollution au moyen âge: dans le royaume de France et dans les grands effets. Editions Jean-Paul Gisserot
- Lhuillier, D. and Cochin, Y. 1999. Des déchets et des hommes. Desclée de Brouwer.
- Likert, R. 1932. A technique for the measurement of attitudes. Archives of psychology
- Lipiski, E. 2004. Itineraria Phoenicia. Peeters Publishers. Google-BooksID: SLSzNfdcqfoC.
- LOLF. 2004. culte des indicateurs ou culture de la performance ? [Online]. Available at: <https://www.senat.fr/rap/r04-220/r04-22048.html>.
- Lorino, P. 2001. La performance et ses indicateurs. Eléments de définition. Indicateurs de performance sous la direction de Chantal Bonnefous et Alain Courtois, Productique Hermès, Paris .
- Mace, G. and Pétry, F. 2000. Guide d'élaboration d'un projet de recherche en sciences sociales. De Boeck Supérieur.