Vol. 27 No. 4 (2025) pp. 989-1007
FORUM EKONOMI
Jurnal Ekonomi, Manajemen dan Akuntansi
P-ISSN 1411-1713 | E-ISSN 2528-150X

Diffusion of Environmental Norm from International to Subnational Level: Promotion of Circular Economy Practices on Waste Management in Samarinda, East Kalimantan

Muhammad Rasyid Ridho[1]✉, Melati Ning Maghfiroh[2]

[1]Universitas Mulawarman, Samarinda, Indonesia.
[2]Universitas Mulawarman, Samarinda, Indonesia.
✉*Corresponding author*: muhammadrasyidridho@fisip.unmul.ac.id

Abstract
This study examines how the circular economy (CE) as an environmental norm spread from international institutions to subnational levels, focusing on waste management practices in Samarinda, East Kalimantan. Using Finnemore and Sikkink's (1998) norm life-cycle framework, the research analyses the process of norm emergence, cascade, and internalization. Data were collected through desk research and interviews with PT Asiana Recycle Indonesia (PT ARI), a local private actor in waste management. The study finds that international organizations such as the Ellen MacArthur Foundation, the European Union (EU), and the World Economic Forum (WEF) play key roles in promoting CE globally through policies and programs. Indonesia has adopted related norms through national regulations and cooperation with foreign partners, yet its implementation remains limited to basic 3R practices. At the local level, Samarinda shows partial internalization of CE principles, supported by local regulations and community waste banks. PT ARI serves as a norm internalization actor as well as local norm entrepreneur by applying CE ideas through recycling initiatives and public awareness programs. CE diffusion in Samarinda demonstrates a gradual but uneven process of translating global norms into local practices, requiring stronger policy integration and cooperation among stakeholders.

Article history
Received 2025-08-14
Accepted 2025-10-15
Published 2025-10-31

Keywords
Norm Diffusion;
Circular Economy;
Waste Management;
Local Government;
Private Sector

1. Introduction

Municipal solid waste (MSW) has become a staple issue in every part of world. To put MSW into context, it is the waste that generated by any activities related in certain municipalities, such as households, commerce, trade and business (Cvetković et al., 2014). The usual items related with MSW includes waste paper, plastic, and scrap metal, glass and furniture (Funk et al., 2020). In a simple manner, it is the usual trash or garbage (Zhao, 2021).

MSW as problem has been mentioned by several global arrangements. The Basel Convention 1989 serves as the first international agreement regulates which MSW falls into hazardous categories (even the 2019 amendment includes varieties of plastics). The well-known Sustainable Development Goals (SDGs) also put MSW-related targets across the 11th, 12th, and 14th point (Ghafari, 2022). On the other hand, global institutions such as World Bank have already conducted various programs on waste management in low-middle income countries between 2003-2024, ranging on capacity building, infrastructure improvement, enhancement of financial sustainability, and social inclusion with total financing around $5.13 (World Bank Group, 2025). As per World Bank report, mentioned by Kaza et al. (2018), the amount of national trash generation varies greatly from 0.11 to 4.54 kilos per inhabitant per day, while the global average is 0.74 kilograms per day. There is a subsequent projection which the amount of waste generated will gradually increase from 2.01 billion tons in 2016 to 3.40 billion tons by 2050, which is equivalent to 73% of global waste increment Kaza et al. (2018).

The problem of MSW not only happens in the global area but also in regional, national, and even sub-national settings. East Asia and Pacific become the region with the highest MSW generation, accounting for 23% from global setting with the amount of 423 million tons per year (Kaza et al., 2018). Putting the relevancy in ASEAN level, then most of the countries still dominated by open dump or the waste just left untreated (Agamuthu & Babel, 2023). Based on the UN Summary report and the recent database in World Bank, Indonesia still the largest producer of MSW between ASEAN countries, accounted for 64 million ton in 2017 (Jain, 2017). Even though Environmental Performance Index placed Indonesia at 81st ranking for waste generated by per capita, it still put Indonesia in the mid-level alongside another ASEAN countries (Environmental Performance Index, n.d.) .

To solve this problem, then the emergence of circular economy (CE) becomes important. The production process in CE characterized as restorative by its nature, to maximize all component in the process as valuable resources (Ellen MacArthur Foundation, 2013). The emergence of this new approach comes as response to the so called linear as prevailing paradigm take-make-dispose, depending on perpetual overconsumption of resources under the maximizing benefits principle which gradually internalized as the point of view or. Moreover, Ellen MacArthur Foundation (2013) showcases four principles of CE such as designing waste to be re-used in the next cycle of production, resilience and flexibility of the production system, the usage of renewable energy for its operation, and its orientation toward building an interconnected system with no sole dependence on single actor (Gardetti, 2019). World Economic Forum and PwC (2018) expanded the CE from 3R into 9R. The earlier is considered as old tenet in CE, since the 9 Rs is considered more all-encompassing aspects. It divides the Rs into several aspects, for example R0-R2 (Refuse, Rethink, Reduce) as part of smarter product use and manufacture; R3-R7 (Reuse, Repair, Refurbish, Remanufacture, and Repurpose) to extend the product lifespan and its parts; R8 -R9 (Recycle and Recover) as part of the maximizing usage of used material (World Economic Forum & PwC, 2018).

To put stop on linearity paradigm in ASEAN level, then it has already promulgated Framework for Circular Economy at the 20th AEC Council Meeting in 2021. Its points are already in direction aligned with the development of Rs. Earlier than the mentioned framework, Indonesia already ratify the Basel Convention 1989. While on a national scale, the government promulgated a new regulation called Law No. 18/2008 on Waste Management, followed by Presidential Regulation No. 97 of 2017 concerning National Policy and Strategy for the Management of Household Waste and Household-like Waste. However mostly the approach used on waste management still lingers on 3R types (reduce, reuse, recycle). There is a irregularities on how waste management as part of the CE is integrated and introduced between national and international or regional levels.

The issue is getting exacerbated by the situation regarding waste fill in the municipal level. The Bukit Pinang Waste Fill (BPWF) experiences overcapacity that leads to its closure in 2023 since its opening at 1995 (Kaltim Today, 2025; Metro News, 2025). BPWF must cease to operate in 2013, however the administrator still pushes for its operation for another 10 years, which the impacted the wastewater treatment plant nearby, clogging its operation due to excessive waste (Kaltim Today, 2021). Besides, inhabitants of several location suffer from the emergence of illegal waste dump site due to the unfiltered waste water flows from the site, thus polluting the farmland and failing their crops (Kaltim Etam, 2025; Yunus, 2025). One member of local parliament even raises a discourse that more waste dump sites are needed to tackle this problem (Pijar.asia, 2025).

2. Method

This research is conducted through qualitative research that investigates phenomenon involving naturalistic approach in interpretative manner, which elucidates information and data from people actions (Denzin & Lincoln, 2005). Numerical data is considered to be one of the data that can be used in this research, on the other hand qualitative research put emphasis on audiovisual type, including written texts, oral communication, videos, photographs; then these data are arranged into a non-condensed extensive compilation (Neuman, 2014).

Between the variety of qualitative methods, this research utilizes case study to explore and activities (program, process, and event) in a limited span of time either in a specific point of time or a determined duration (Creswell, 2009; Neuman, 2014). This research points out the global condition supporting the CE and putting Indonesia followed by singling out Samarinda, East Kalimantan as the scope of study in this case. The collection of data is divided into two categories. First, desk research (Moore, 2006) for compiling online sources such as governmental websites and reports (international and national regulations), news, and scientific articles. The data collections and literature review are revolving around global situation of CE expansion, international cooperation of CE, Indonesia effort in regulation on waste management, Indonesia cooperation in CE, Indonesia ratification of international agreements related with CE.

Second type of data collection is done through interview with PT Asiana Recycle Indonesia (PT ARI) as one of the private actors on waste management in Samarinda. The author interviewed two key people: the managing director and the founding director of the enterprise to inquire about the data about the establishment, motives, activities, and programs of PT ARI. The interview took place in their headquarters in Mugirejo, Samarinda for two days. All the explanations in the "internalizing CE" sections exclusively come from the interview.

In framing this research, the norm life cycle by Finnemore & Sikkink (1998) is applied to portray the phenomenon on how CE and waste management as norm moved from international to provincial level through three stages. First, emergence of norms by norm entrepreneurs encompassing individuals, for instance activists or scholars who publicize their works, or groups who advocate for new standards of appropriate behavior. The role of organizational platforms cannot be sidelined, e.g. non-governmental organizations (NGOs) or intergovernmental organizations (IGOs), to frame issues in ways that resonate with a wider audience and challenge existing norms. Through persuasion, they work to convince states to adopt the new norm.

Second, the norm cascade could be triggered when many states support and adopt the new standard. Finnemore and Sikkink use one-third of states as the critical threshold to ensure the norm is espoused in the international system. This threshold is not absolute, due to the unequal weight of states who put importance of the said issue. The norm rapidly spreads throughout the state system.

3. Results and Discussion

3.1. Norm Ascendancy in Global Settings

As aforementioned part has been discussed, one of the prominent actors on CE expansion is Ellen McArthur Foundation which is based in the UK. Its purposes are eliminating waste and pollution, circulating products and materials at their highest value, and regenerating nature, with issues focusing on plastics and packaging, critical minerals, and retails (Ellen MacArthur Foundation, n.d.-

e). The institute itself has been established in 2010 and advocating these issues through many platforms. To ensure the validity of their work, it disseminates their CE-related analysis annually revolving those three aspects (Ellen MacArthur Foundation, n.d.-d). Visitors may find the compilation of CE case studies around the world regarding in topics such as plastics and policies on the website (Ellen MacArthur Foundation, n.d.-b, n.d.-c). The foundation expands their outreach efforts by partnering with University Bradford to establish and design the master program which offers CE in its curriculum (Ellen MacArthur Foundation, n.d.-a; University of Bradford, n.d.).

The founder of the foundation institution also disseminates CE ideas in other institutions, as she personally writes commentaries about CE in World Economic Forum (WEF) websites on the CE (MacArthur, 2013, 2015, 2016a, 2016b, 2018, 2019; MacArthur & van Houten, 2021; Polman & MacArthur, 2018). The foundation attempts to spread CE practices, the foundation launched The CE100. Its purposes to brings together a diverse group of stakeholders, including corporations, innovators, government bodies, universities, and key experts in Europe and North America (European Union, 2019). These workshops offer a collaborative, non-competitive setting for participants to exchange information and provide opportunities for the participants to learn from specialists, build new professional relationships, and advance common solutions (European Union, 2019). Further collaboration by this foundation is made by signing the agreement with UN to foster more engagement in public-private sector and stimulate them with CE paradigm (UN Environmental Programme, 2018)

Mentioned in previous section, WEF is organization providing a forum for public-private discussion on world economic affairs with principles of independence, impartiality, integrity, respect and excellence (World Economy Forum, 2025). Its activities have a quite interlinkage with Ellen McArthur Foundation in supporting the CE. It allows CE becoming a discourse in global stage by allowing the founder to present her and the foundation ideas in Davos, Swiss when WEF conduct its annual meeting (MacArthur, 2016b). WEF published a collaboration report which interviewed 30 business leaders and experts from the networks of the World Economic Forum's leading companies, the Ellen MacArthur Foundation's Founding Partners, and the actors affiliated with CE100 (WEF, 2014). Besides, it is showcasing views on CE importance, separated from Ellen McArthur Foundation, ranging from business players to intellectuals (Dedicoat, 2016; Esposito & Tse, 2015; Ghosh, 2019; Stephenson, 2014). Stepping further as a discussion forum, WEF has been holding an award session called The Circulars since 2015 to appreciate public and private stakeholders who underpin CE implementation (Cann, 2019).

Another international institution which actively propagating CE at an international level is EU. Its awareness on CE could be retraced before the term emerged, when EU promulgated Sustainable Consumption and Production (SCP) Action Plan. The very spirit of this regulation is for mainstreaming environmental sensibilities on products life cycle, in turn creating 'virtuous circle', a predecessor of CE in European sense (European Commission, 2008). This framework is succeeded by Circular Economy Action Plan already mentioned the concept of CE in explicit manner. The nuance of SCP is more on the greening the linear economy processes (labelling, eco-design, and green procurement), while the CE Action Plan explicitly put waste management, financing, financing, financing, financing, setting priority areas) and urging countries to meet with the EU designated target assisted with monitoring framework (European Commission, 2015)

The way EU promotes CE over the world is done by several initiatives as mentioned by Kern et al., (2019). First, Circular Mission which EU sent its delegation to developing and developed countries in 2016-2019, with countries target such as China, India, Mexico, South Africa, Japan, Chile, Indonesia, and Colombia. It is indeed brought about a variety of topics, including waste and water management, marine pollution, and eco-innovation. Along with such action, EU introduces Switch to Green (S2G) Flagship for providing the initial step transition to green economy. The programs are conducted across the Asia, Mediterranean, and Africa. EU sponsored S2Gprovides free training consists of EU best practices and policy making, thus making EU the leader in knowledge production of CE-related contents (Müller, 2016; Switch2Green, n.d.-a).

With EU commitment directly engage in the promotion of CE, it is followed by EU-centered Global Alliance on Circular Economy and Resource Efficiency (GACERE) in 2021. This initiative was

launched by the European Commission and the United Nations Environment Programme (UNEP), with support from the United Nations Industrial Development Organization (UNIDO. Several initiatives (earlier or later) are being part of the GACERE, such as World Circular Economy Forum (WCEF), the Platform for Accelerating the Circular Economy (PACE), the Partnership for Action on Green Economy (PAGE), and the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns / One Planet Network (10YFP/OPN) (UN Environmental Programme, 2021). GACERE (European Commission, n.d.; UN Environmental Programme, 2021) purposes are as follows:

1) Advocate for an equitable global transition, in form of endorsing shift toward a resource-efficient CE to support sustainable practices, helping countries meet climate targets (Paris Agreement), protects biodiversity, and reduces waste.
2) Review domestic policies, such as documenting and analyzing existing national policies, financial incentives, and regulations concerning CE with inclusive and sustainable characteristics.
3) Identify global barriers through research, including knowledge and governance gaps, challenges in separating economic growth from resource use and environmental harm, while also exploring opportunities to make global supply chains more sustainable. This will help governments and stakeholders overcome the barriers and bottlenecks previously identified.
4) Support Collaborative Partnerships and facilitate global dialogue for encouraging and maintaining partnerships between different sectors, countries (bilateral), or regions. These collaborations induce further discussion should effectively disseminate best practices for the circular economy transition while avoiding redundant efforts.

The existence of research articles propagating CE at an international level could not be sidelined. The development of CE is already elaborated by Kern et al., (2019), which underlined many scholars discussing CE while referencing the older works. Kern et. al shows that even though NGOs coins the naming of CE as a recent concept, whereas the idea of eco-friendly economic system is already there with different names: including general system theory (Von Bertalanffy, 1950), scarcity and toxicity in conventional economy (Carson, 1962), spaceship economy (Boulding, 1966), limits to growth (Meadows et al., 1974), closed-loop economy (Stahel & Reday-Mulvey, 1981), environmental economics (Pearce & Turner, 1990), Regenerative design (Lyle, 1994), industrial ecology (Graedel & Allenby, 1995), cradle to cradle (McDonough & Braungart, 2002), biomimicry (Benyus, 2002), Ecological economics (Daly, 1996, 2005), performance economy (Stahel, 2010), and blue economy (Pauli, n.d.).

3.2. The Diffusion of Interrelated Norms: Indonesian Context

3.2.1. National Commitment

Before the insertion of CE norm in Indonesia becoming a trend, at least Indonesia is already recognizing the international-based environmentally friendly regulations. Indonesia ratified many international agreements, especially related with waste/pollution as follows:

Table 1. List of Environmental International Agreements Ratified by Indonesia

No.	Agreement Name	Year	Ratification	Scope
1.	United Nations Convention on the Law of the Sea (UNCLOS)	1982	Law No. 17/1985 December 31, 1985	Marine pollution (includes plastic waste in the ocean), general environment of the sea.
2.	Montreal Protocol on Substances that Deplete the Ozone Layer	1987	Presidential Decree No. 23 of 1992	Reduction and elimination of ozone-depleting substances.
3.	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1989	Ratified by Presidential Decree No. 61/1993 and No. 47/2005	Control of transboundary movements of hazardous wastes and their disposal.

No.	Agreement Name	Year	Ratification	Scope
4.	United Nations Framework Convention on Climate Change (UNFCCC)	1992	Law No. 6/1994	Climate change mitigation and adaptation
5.	Convention on Biological Diversity (CBD)	1992	Law No. 5/1994.	Conservation and sustainable use of biodiversity
6.	Kyoto Protocol to the UNFCCC	1997	Law No. 17/2004	Reduction of greenhouse gas emissions
7.	Stockholm Convention on Persistent Organic Pollutants (POPs)	2001	Law No. 19 of 2009	Institute a framework to regulate, restrict, and prohibit materials containing POPs, targeting plastic and polymer-based items specifically
8.	Paris Agreement to the UNFCCC	2015	Law No. 16/2016	Climate change mitigation, adaptation, and finance

Indonesia government while it has familiarized itself with environmental norms, the mentioning of CE is still lacking. The principles of CE in Indonesia still limited on the basic 3Rs. Still, Indonesian government thus put forward their sustainable and environmental commitment by releasing regulations, reflected on Airlangga Hartarto (Coordinating Minister of Economic Affairs) statement which economic generation through CE would save significant amount on natural resources due to the utilization reusable raw materials (Nasution, 2021). 3R principles mostly mentioned in government regulation no. 81/2012, which elaborate the technicalities on collecting, transporting, reducing waste, in addition to providing a 3R garbage dump facility.

Table 2. Indonesia Regulations Relating to Waste

No	Regulation	Type	Theme
1.	No. 18/2008	Law	Solid Waste Management
2.	No. 81/2012	Government Regulation	Management of Household and Household-like Waste
3.	No. 82/2001		Water Quality Management and Water Pollution Control.
4.	No. 97/2017	Presidential Regulations	National Policies and Strategies for the Management of Household Waste and Similar Waste (Jakstranas)
5.	No. 18/2016		Acceleration of Development of Waste-to-Energy Plant in Province of DKI Jakarta, Cities of Tangerang, Bandung, Semarang, Surakarta, Surabaya, and Makassar (revoked)
6.	No. 35/2018		The Acceleration of Waste to Energy Facility Installation that is Based on Environmentally Friendly Technology
7.	No. 38/2015		The Cooperation between Government and Enterprises on Infrastructure Provision.
8.	No. 50/2017	Ministerial Regulations	Utilization of Renewable Energy Resources for Electric Supply.
9.	No. P.70/Menlhk/setjen/Kum.1/8/2016		Emission Quality Standard from Thermal Waste Treatment Activities.
10.	No. 59/Menlhk/setjen/Kum.1/7/2016		Leachate Quality Standard from Landfill Processing Activities.

11.	No. 44/2015	Electricity Purchased by PLN Sourced from City Waste-to-Energy Plant.
12.	No. 3/2013	Implementation of Solid Waste Infrastructure and Facilities in Handling Household and Household-like Solid Waste
13.	No. 13/2012	Reduce, Reuse and Recycle by means of Waste Bank.
14.	No. 33/2010	Solid Waste Management Guideline

Source: Ministry of Environment and Food Denmark et al., (2018)

Besides the adoption on such activities, Indonesia involved in initiatives from foreign partners. Indonesia made cooperation in CE with Denmark since 2016 until 2018 though the Strategic Sector Cooperation (SSC), which it is continued for the next phase since 2019 (Kementerian Energi dan Sumber Daya Mineral, 2019). It is manifested through Plan of Action Indonesia-Denmark (2017-2020) and its renewal for another period (2021-2024). The cooperation also extended by inviting UNDP as its supporter, by releasing CE modules accessible to public in Bahasa as a way to disseminate, spread the knowledge and facilitate capacity building of potential actors involved in CE, especially the private sector (UNDP, 2023). Even Denmark attempts to encroach the subnational level is proven by their program with Central Java on renewable energy and waste managements (Rizqi, 2017).

Another initiative which Indonesia government dealt with other party is EU. In the previous part, Indonesia become the recipient of S2G program in Asia alongside another countries. In Asia region itself, Indonesia is considered to be one of many recipient countries with significant number of programs, totaling 11 programs, in par with Philippines, Nepal, and Cambodia (10), but outnumbered by Vietnam (15), India (19) and China (25) (Switch2Green, n.d.-b). The initiative is CE by nature; however, it still does not specifically include waste management.

Indonesia's ratification of these treaties and welcoming the initiatives serves to project its identity as a responsible member of the international community. This is a crucial strategic move, given that the nation's global reputation is often tarnished by severe environmental challenges. The act of ratification functions as a formal pledge, demonstrating a clear political will to transition from being a source of these problems to becoming a proactive partner in their solution. This "green diplomacy" is instrumental in helping Indonesia strengthen its standing and cultivate an image of leadership, particularly within the global climate action arena

3.2.2. Subnational Commitment – East Kalimantan and Samarinda

Regarding its implementation in subnational, East Kalimantan and Samarinda have several instruments which try to cover the issues, although they do not imply explicitly on CE. First, Regional Long-Term Development Plan (2005-2025) does not have any keyword related to CE, even waste management. However, the document itself is already stated the awareness of global environmental situation, such as green consumer movement, strict regulation on international trade e.g. ecolabelling, ISO 14000, and ecoefficiency although there is no real or concrete practical plan to tackle them (Pemerintah Provinsi Kalimantan Timur, 2008).

This plan is followed by Regional Mid-Term Development Plan which flesh out the goals that East Kalimantan wants to reach. In the first Mid-Term Plan 2009-2013, It has proposed on creating a sustainable condition on mining, agriculture and renewable energy, with the minimum mention on waste/pollution tackle strategy (Pemerintah Provinsi Kalimantan Timur, 2009). In the second period, the awareness on green governance and green economy is manifested through the declaration on Kaltim Green in 2011. Green mainstreaming was becoming the priority East Kalimantan with more emphasis on increasing sources of renewable energy, conserving special zones and enforcing environmental law for 2013-2018 period and its tone is quite similar with the

2019-2023 Mid-Term Plan with additional concern on hazardous and toxic waste (Pemerintah Provinsi Kalimantan Timur, 2014, 2019).

Municipal level (Samarinda) translates such concern through similar mechanisms, even though those instruments still do not translate well as those plan state. At least, these municipal plans were brought out and showed the government has the concern on tackling the waste and implementing 3R mechanism as its basic premise. Three municipal mid-term development plans stated the issue of municipal waste management in the priority service issue (Pemerintah Kota Samarinda, 2016, 2021, 2025). The problem is when the waste volume increment is not followed by the capability of transporting and handling to the landfill (Pemerintah Kota Samarinda, 2016). Until 2023, mostly around 60-70% waste that could be managed while the rest are burned or in a state of negligence (Pemerintah Kota Samarinda, 2025).

Furthermore, as mentioned in the regional mid-term development plan, there is still not enough facility to manage hazardous and toxic waste (Pemerintah Kota Samarinda, 2016). The issue is getting exacerbated when the increment of Samarinda inhabitants is inversely related to the dumpster capacity between 2017-2020 (Pemerintah Kota Samarinda, 2016). The government thus proposes to build integrated waste processing sites in two subdistricts, Sambutan and Citra Niaga to contain the waste problem. Recently, Samarinda government became aware of the development concept of Tri-City, which put IKN, Balikpapan, and Samarinda becoming the hub for economy nexus. With the growth of these three areas indeed increasing the amount of waste generated, thus waste management capacity enhancement becomes one from many emergencies that need to be built (Pemerintah Kota Samarinda, 2025)

The existence of Jaktranas (Presidential Regulation No 97/2017) targets the future decrement of waste generation to 30% and 70% for the amount of waste managed. To support these goals, then Samarinda. However, before the existence of Jaktranas, Samarinda already had regulations on tackling the waste issue at municipal level.

Table 3. Samarinda Regulations on Waste Management

No	Type regulation	Number	Theme
1.	Regional Regulation	2/2011	Waste Management
2.		5/2021	Amendment to Regional Regulation No. 2/2011 on Waste Management
3.	Mayor Regulation	16/2012	Waste Management Implementation in Samarinda City
4.		27/2012	Procedures for Collecting Waste and Sanitation Service Fees
5.		37/2018	Organic Waste Processing and Utilization with a Composting System
6.		66/2016	Amendment to Samarinda Mayoral Regulation Number 27 of 2012 concerning Procedures for Collecting Waste and Sanitation Service Fees
7.		37/2019	Second Amendment to Samarinda Mayoral Regulation Number 27 of 2012 concerning Procedures for Collecting Waste and Sanitation Service Fees
8.		1/2019	Reducing Plastic Bag Usage

9.	52/2020	Determination of Waste/Sanitation Service Fee Rates Reducing Plastic Bag Use
10.	18/2022	Supervision and Implementation of Administrative Sanctions for Waste Management

Source: (Permana et al., 2024)

The implementation of the norms into regulating law could be encapsulated into sanction for the citizens who did not abide by the law and the retribution fee for waste to change the citizen behavior through waste. The actions that are considered as sanctions are written notice, government coercion, fines, temporary stoppage or revocation of permit. Especially in fines, it ranges from Rp. 150.000 to Rp. 1.500.000, depending on the actors (individual, public or private institutions) and the severity of the actions (Pemerintah Kota Samarinda, 2022). There is also a retribution given to institutions, using tariff/month or tariff/m3 as unit of calculation (Pemerintah Kota Samarinda, 2012, 2020).

Nowadays, the practice of avoiding plastic bag usage is already widespread due to regulation no. 1/201 and people are disposing of their waste in the appropriate timeframe. This phenomenon shows the result of Samarinda Government through its Environmental Agency (EA) conducting yustisi operation to enforce the existing rules. They did a stakeout operation, catch the perpetrators, and make them pay the fines while their identification cards are getting held for 2 days (Sapos.co.id, 2022).

3.3. Internalizing CE: PT ARI in Samarinda as Local Norm Entrepreneur

The existence of national and provincial regulations means there is a significant change in environment to implement the CE aspects. There are indeed a lot of waste banks in Samarinda, however due to their characteristic as community-based waste banks, their operation is limited to the voluntary action of their members. The limit is on the frequency of their operation which is not running on daily basis. Besides, as stated in 2021-2026 mid-term plan, Samarinda lacks cooperation between public and private concerning the waste issue. Hence, Samarinda needs more private actors that could fill the gap on this matter, concurrently with Samarinda government effort on improving their waste governance. The below section explains the emergence of PT ARI as one of private actors and the passages presented are collected from interview with the director (H. Anwar, personal communication, 9 October 2025) and manager (A. S. Garsan, personal communication, 3 October 2025).

PT ARI serves as the representative of private actor on CE implementation in waste management. Established in late 2023, it cooperates with Main Waste Bank (MWB) Bungas help its operation that was inactive for a certain period. The founder of this company, Hairil Anwar, is simultaneously the member of the MWB Bungas. The operation establishment of PT ARI actually to support the operation of MWB Bungas, thus Samarinda Government through its EA provides the the site for PT ARI at Mugirejo 3R Integrated Waste Management Site (TPS3R Mugirejo). PT ARI focuses its operation on sorting household waste, with the further processing on plastic waste (commercial or houseware-based plastics). The manager learns the CE as a concept through practices in this enterprise, focusing on classifying waste in a thorough process, while the owner actually has been introduced by CE values through his own readings and first venture on maggot business in 2020. He is aware that CE practices could bring the close-loop economy production. The ultimate goal of the enterprise could be divided into two: to make people aware of the urgency of sorting the household waste from their home and wishing the government to enforce the waste-related regulations in a strict manner (A. S. Garsan, personal communication, 3 October 2025).

They offer services such as picking up, sorting, and shredding the waste accordingly. The price of handling unsorted waste is higher than the sorted one, due to the extra service of sorting done by the staff and the transporting fee from the user location to the site. After finishing the sorting process, the organic waste is directed on composting process, while the plastics are put into shredder to

produce chopped plastics as the raw material for other purposes. If there are other types of recyclable waste, such as metal and plastic bags, then PT ARI would sell it to other actors: scrap metal collector and other enterprises which specialize in plastic bags. The product from this enterprise is sold to Surabaya, since East Kalimantan lacks factories that could process the items into new products. The consumers which their waste is picked up by PT ARI get information on their waste accumulation through digital application. However, people abandon this platform due to the simplicity of Whatsapp that caused PT ARI to use for future reporting purposes (A. S. Garsan, personal communication, 3 October 2025).

PT ARI happens to conduct several cooperation with other actors in disseminating CE practices, especially in the context of waste management. They usually do campaigns on the importance of sorting household waste with variety of actors. Besides, other activities have been done by PT ARI such as training and consultancy for the related stakeholders. In consultancy area, PT ARI supports and accompanies the establishment of waste banks for actors who partner with. The most representative one is West Kutai EA, which made contract with PT ARI for 6 months period - eventually the contract is still continued for 2 years- on consultancy for establishing the 3R Integrated Waste Management Site (H. Anwar, personal communication, 9 October 2025).

Table 4. Private/Public Partners and Activities Hold by PT ARI

No.	Name	Activities		
		Waste Pick up	Consultancy	Outreach campaign
1.	Marimar	✓		
2.	Karta Hotel dan Spa	✓		
3.	PLN Unit Tanjung Batu	✓		
4.	PLN Batam	✓		
5.	Samarinda Theme Park	✓		
6.	PT. Thiess	✓	✓	✓
7.	PT. Indomarco Adi Prima	✓		
8.	PT. Nutrifood Indonesia	✓		
9	PLN UPP Kalbagtim 1	✓		
10	Hermina Hospital	✓		
11.	Bina Lingkungan Student Club Widya Gama University			✓
12.	Mulawarman University			✓
13.	SD Tiga Bahasa			✓
14.	Madrasah Ibtidaiyah DDI Tani Maju			✓
15.	Muhammadiyah University of East Kalimantan			✓
16.	Esa Cipta Harapan School			✓
17.	EA North Paser			✓
18.	EA West Kutai		✓	✓
19.	EA East Kalimantan			✓
20.	EA Samarinda		✓	✓
21.	MWB Bungas Mahakam	✓		✓

No.	Name	Activities		
		Waste Pick up	Consultancy	Outreach campaign
22.	East Kalimantan Wast Bank Communication Forum		✓	✓
23.	Waste Bank Bontang		✓	✓

Source: PT ARI documents

For supporting the cooperation in the future, PT ARI establish its foundation (YARI) to support its operation in 2025, especially on receiving corporate social responsibility (CSR) funding due to many larger enterprises having policy on prohibiting its delivery to other enterprises. The noticeable difference is that while PT ARI do all the economic operations based on profit, the foundation will be the basis of non-profit activities. The manager and the founder of PT ARI have a future plan that foundation would cater the social activities, for instance Eco-warriors. Until right now, the name is only used to call staff who work in the enterprises. However, the initiatives may become a medium for university students' involvement as volunteers in social campaigns (A. S. Garsan, personal communication, 3 October 2025).

PT ARI highlights the mindset of people which could hinder the circularity practices in Samarinda. There is a pervasive belief that sorting the waste would end up in vain since there is no sorting process that ever happened in the garbage dump or landfill. However, the pemulung (informal waste collectors) still do their business as usual, picking up the waste. Self-sorting the waste from the home actually will help the pemulung, as the manager said. Furthermore, PT ARI give their commitment to have agreement with garbage dumps in Samarinda for sourcing their waste directly from the pemulung and interacting with them rather than from middleman. Even PT ARI try to reframe them in a more formalistic and humanistic nature, shown by how the pemulung in Folder Garbage Dump as one of the PT ARI partners, are called tenaga pilah (waste sorting worker) (H. Anwar, personal communication, 9 October 2025).

What makes PT ARI different is their branding through social campaigns with governmental partners. First, they involved as the recipients of waste collected through Aksi Bersih Negeri hold by Ministry of Environment and Forestry, alongside regencies and cities EA, in addition of students and organizations in Dusit Beach, Balikpapan (ptasianarecycleindonesia, 2024d). Second, the ARI Clean Up Day for celebrating National Garbage Day with East Kalimantan EA and high schools in Samarinda and Aksi Bersih ARI on East Kalimantan 67th anniversary (ptasianarecycleindonesia, 2024a, 2024c). Third, ARI Award which giving appreciation to waste banks, individuals, or organizations that managing their waste and depositing their waste to MWB Bungas (ptasianarecycleindonesia, 2024b). Lastly, sedekah sampah which the profit from waste sales is donated to Provincial Islamic Center Baitul Muttaqien Mosque (ptasianarecycleindonesia, 2023). All of these events are posted on their Instagram as a strategy to increase people's engagement and to show that CE initiatives are an indispensable part of Samarinda.

4. Conclusion

This study shows how the idea of the circular economy (CE) spreads from the international level to the local level, using Samarinda, East Kalimantan, as an example. Globally, organizations such as the Ellen MacArthur Foundation, the European Union (EU), and the World Economic Forum (WEF) have promoted CE as a new way to manage waste and support sustainable development. They created programs and policies such as the EU Circular Economy Action Plan and the Global Alliance on Circular Economy and Resource Efficiency (GACERE) to spread CE ideas around the world. These actions helped developing countries, including Indonesia, to learn and adopt CE principles.

These international norm moves to Indonesia, the government has joined several international environmental agreements and created national regulations, such as Law No. 18/2008 and Presidential Regulation No. 97/2017, to improve waste management. Indonesia also cooperates with other countries like Denmark and the EU to promote CE and renewable energy. However, most

national policies still focus on the basic 3R concept—reduce, reuse, and recycle—while the broader ideas of CE are not yet fully applied. Limited infrastructure, funding, and coordination between institutions still slow down progress.

At the local level, Samarinda has started to include waste reduction and recycling in its development plans. Some regulations also support community actions, such as reducing plastic bag use and establishing waste banks. Yet, problems remain, including a lack of waste facilities and weak cooperation between public and private sectors. The case of PT Asiana Recycle Indonesia (PT ARI) shows that local private actors can help spread and apply CE ideas by sorting, processing, and reusing waste, as well as raising public awareness. The diffusion of CE in Samarinda shows that global environmental norms can be practiced locally. To make CE a permanent part of society, stronger policies, better technology, and consistent cooperation between government, private actors, and communities are needed.

References

Agamuthu, P., & Babel, S. (2023). Waste management developments in the last five decades: Asian perspective. Waste Management & Research, 41(12), 1699–1716. https://doi.org/https://doi.org/10.1177/0734242X231199938

Barrie, J., Latif, L. A., Albaladejo, M., Baršauskaitė, I., Kravchenko, Alexey Kuch, A., Mulder, N., Murara, M., Oger, A., & Schröder, P. (2022). Trade for an inclusive circular economy: A framework for collective action. https://www.chathamhouse.org/sites/default/files/2022-06/2022-06-15-inclusive-circular-trade-barrie-et-al.pdf

Barrie, J., & Schröder, P. (2022). Circular economy and international trade: A systematic literature review. Circular Economy and Sustainability, 2(2), 447–471. https://doi.org/https://doi.org/10.1007/s43615-021-00126-w

Bellmann, C. (2021). The Circular Economy and International Trade: Options for the World Trade Organization (WTO). International Chamber of Commerce. https://icc.se/wp-content/uploads/2021/12/20211214_Circular-Economy.pdf

Benyus, J. (2002). Biomimicry:Innovation Inspired by Nature. Perennial.

Boulding, K. E. (1966). The Economics of the Coming Spaceship Earth. In Environmental Quality in a Growing Economy (pp. 3–14). Johns Hopkins University Press. https://arachnid.biosci.utexas.edu/courses/thoc/readings/boulding_spaceshipearth.pdf

Burinskienė, A., Lingaitienė, O., & Byčenkaitė, G. (2025). Dynamics of trade of recycled raw materials and the connection with the circular economy. Discover Sustainability, 6(280), 1–37. https://doi.org/https://doi.org/10.1007/s43621-025-01502-4

Cann, O. (2019, February 21). Closing the Loop: Meet the Pioneers Turning our Global Economy Circular. https://www.weforum.org/press/2019/02/closing-the-loop-meet-the-pioneers-turning-our-global-economy-circular/#:~:text=· The Circulars awards were launched in,of Young Global Leaders%2C in collaboration with

Carenzo, S., Juarez, P., & Becerra, L. (2022). Is there room for a circular economy "from below"? Reflections on privatisation and commoning of circular waste loops in Argentina. Local Environment, 27(10–11), 1338–1354. https://doi.org/10.1080/13549839.2022.2048258

Carson, R. (1962). Silent spring. Penguin.

Creswell, J. W. (2009). Research Desgin: Qualitative, Quantitative, and Mixed Methods Approaches (3rd ed.). SAGE Publications.

Cvetković, S., Kaluđerović Radoičić, T., Vukadinović, B., & Kijevčanin, M. (2014). Potentials and status of biogas as energy source in the Republic of Serbia. Renewable and Sustainable Energy Reviews, 31, 407–416. https://doi.org/https://doi.org/10.1016/j.rser.2013.12.005

Daly, H. E. (1996). Beyond Growth: the Economics of Sustainable Development. Beacon Press.

Daly, H. E. (2005). Economics In A Full World. Scientific American, 293, 100–107. https://doi.org/https://doi.org/10.1038/scientificamerican0905-100

de Lange, D. E. (2024). Circular economy international trade: An investigation of the relationship between european union circularity and international trade. Journal of Cleaner Production, 484, 1–13. https://doi.org/https://doi.org/10.1016/j.jclepro.2024.144350

Dedicoat, C. (2016, January 23). Circular economy: what it means, how to get there. https://www.weforum.org/stories/2016/01/the-importance-of-a-circular-economy/

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction. The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), The Sage handbook of qualitative research (pp. 1–32). SAGE Publications.

Dewi, N. N. C. L., & Pratama, R. W. (2021). Potential Impact of China's Circular Economy on Jobs Creation in the Tertiary Industrial Sector. Journal of World Trade Studies, 6(1), 15–27. https://journal.ugm.ac.id/v3/JWTS/article/view/1145

Ellen MacArthur Foundation. (n.d.-a). Ellen MacArthur Foundation timeline. Retrieved October 20, 2025, from https://www.ellenmacarthurfoundation.org/about-us/timeline

Ellen MacArthur Foundation. (n.d.-b). Plastics. Retrieved October 20, 2025, from https://www.ellenmacarthurfoundation.org/topics/plastics/examples

Ellen MacArthur Foundation. (n.d.-c). Policy and Institutions. Retrieved October 20, 2025, from https://www.ellenmacarthurfoundation.org/resources/government-and-policy/examples

Ellen MacArthur Foundation. (n.d.-d). Publications. https://doi.org/https://www.ellenmacarthurfoundation.org/publications

Ellen MacArthur Foundation. (n.d.-e). What we do at The Ellen MacArthur Foundation. Retrieved October 19, 2025, from https://www.ellenmacarthurfoundation.org/about-us/what-we-do

Ellen MacArthur Foundation. (2013). Towards the Circular Economy. https://content.ellenmacarthurfoundation.org/m/50c85a620a58955/original/Towards-the-circular-economy-Vol-2.pdf

Environmental Performance Index. (n.d.). Waste Generated Per Capita. Retrieved September 20, 2025, from https://epi.yale.edu/measure/2024/WPC

Esposito, M., & Tse, T. (2015, September 17). Why we need a circular economy. https://www.weforum.org/stories/2015/09/why-we-need-a-circular-economy/

European Commission. (n.d.). Circular economy. Retrieved October 23, 2025, from https://environment.ec.europa.eu/international-cooperation/circular-economy_en#circular-economy-missions

European Commission. (2008, September 22). Sustainable Consumption, Production and Industry Action Plan. https://eur-lex.europa.eu/EN/legal-content/summary/sustainable-consumption-production-and-industry-action-plan.html

European Commission. (2015). Closing the loop - An EU action plan for the Circular Economy. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0614

European Union. (2019, May 10). CE100 Acceleration Workshop held in Catalonia. https://circulareconomy.europa.eu/platform/en/news-and-events/all-news/ce100-acceleration-workshop-held-catalonia

Feng, K. (Emma), & Lam, C.-Y. (Anson). (2021). An Overview of Circular Economy in China: How the Current Challenges Shape the Plans for the Future. The Chinese Economy, 54(5), 355–371. https://doi.org/10.1080/10971475.2021.1875156

Finnemore, M., & Sikkink, K. (1998). International Norm Dynamics and Political Change. International Organization, 52(4), 887–917. https://doi.org/https://doi.org/10.1162/002081898550789

Flynn, A., Hacking, N., & Xie, L. (2019). Governance of the circular economy: A comparative examination of the use of standards by China and the United Kingdom. Environmental Innovation and Societal Transitionsransitions, 33, 282–300. https://doi.org/https://doi.org/10.1016/j.eist.2019.08.002

Funk, K., Milford, J., & Simpkins, T. (2020). Chapter 19 - Waste not, want not: analyzing the economic and environmental viability of waste-to-energy technology for site-specific optimization of renewable

energy options. In A. Dahiya (Ed.), Bioenergy (Second Edition) (Second Edi, pp. 385–423). Academic Press. https://doi.org/https://doi.org/10.1016/B978-0-12-815497-7.00019-1

Gardetti, M. A. (2019). Introduction and the concept of circular economy. In S. S. M. Muthu (Ed.), Circular Economy in Textiles and Apparel: Processing, Manufacturing, and Design. Woodhead Publishing.

Georgescu, I., Kinnunen, J., & Androniceanu, A.-M. (2022). Empirical evidence on circular economy and economic development in Europe: a panel approach. Journal of Business Economics and Management (JBEM), 23(1), 199–217. https://doi.org/doi:10.3846/jbem.2022.16050

Ghafari, D. (2022). Sustainable Development Goals (SDG): Waste Indicators. UNEP. https://wesr.unep.org/sites/default/files/2022-02/Waste_Methodologies.pdf

Ghosh, A. (2019, January 21). The circular economy is a golden opportunity. Don't let it go to waste. https://www.weforum.org/stories/2019/01/the-circular-economy-turns-waste-into-gold-so-lets-get-on-with-it/

Graedel, T. E., & Allenby, B. R. (1995). Industrial ecology (2nd ed.). Prentice Hall.

Hjaltadóttir, R. E., & Hild, P. (2021). Circular Economy in the building industry European policy and local practices. European Planning Studies, 29(12), 2226–2251. https://doi.org/10.1080/09654313.2021.1904838

Jain, A. (2017). Summary Report: Waste Management in ASEAN Countries. https://wedocs.unep.org/bitstream/handle/20.500.11822/21134/waste_mgt_asean_summary.pdf?sequence=1&amp%3BisAllowed=

James, J. (2019). Squaring the Circle: Norm Diffusion in Sustainable Development; The Case of Circular EconomiesNo Title [Lund University]. https://lup.lub.lu.se/student-papers/search/publication/8978252

Kaltim Etam. (2025, October 2). Lahan Pertanian Rusak Akibat TPS Ilegal, Warga Batu Besaung Tagih Keseriusan Pemerintah. https://kaltimetam.id/lahan-pertanian-rusak-akibat-tps-ilegal-warga-batu-besaung-tagih-keseriusan-pemerintah/

Kaltim Today. (2021, April 29). 8 Tahun Offside, DLH Samarinda: TPA Bukit Pinang Mestinya Tutup 2013 Lalu. https://kaltimtoday.co/8-tahun-offside-dlh-samarinda-tpa-bukit-pinang-mestinya-tutup-2013-lalu

Kaltim Today. (2025, September 30). TPA Bukit Pinang Bakal Direvitalisasi Jadi Ruang Terbuka Hijau, Anggaran Tahap Pertama Rp16 Miliar. https://kaltimtoday.co/tpa-bukit-pinang-bakal-direvitalisasi-jadi-ruang-terbuka-hijau-anggaran-tahap-pertama-rp16-miliar

Kaza, S., Yao, L., Bhada-Tada, P., & Van Woerden, F. (2018). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. International Bank for Reconstruction and Development / The World Bank. https://doi.org/oi:10.1596/978-1-4648 -1329-0.

Kementerian Energi dan Sumber Daya Mineral. (2019). Fokus Perpanjangan Kerja Sama Strategis RI-Denmark, Konkret Manfaatnya Untuk Daerah. https://www.esdm.go.id/id/berita-unit/direktorat-jenderal-ebtke/fokus-perpanjangan-kerja-sama-strategis-ri-denmark-konkret-manfaatnya-untuk-daerah

Kern, F., Sharp, H., & Hachmann, S. (2019). Adopting and Diffusing the Circular Economy as a policy concept: The Case of the European Union. 4th International Conference on Public Policy. https://www.ippapublicpolicy.org/file/paper/5cfac98c4c94c.pdf

Ketaren, E. S., & Lestari, A. F. A. (2023). Towards a Circular Blue Economy in the Global South: Potentials and Challenges in Kiribati. Journal of World Trade Studies, 8(1), 23–39. https://journal.ugm.ac.id/v3/JWTS/article/view/10941

Luo, A., Zuberi, M., Liu, J., Perrone, M., Schnepf, S., & Leipold, S. (2021). Why common interests and collective action are not enough for environmental cooperation – Lessons from the China-EU cooperation discourse on circular economy. Global Environmental Change, 71, 1–10. https://doi.org/https://doi.org/10.1016/j.gloenvcha.2021.102389

Lyle, J. . (1994). Regenerative Design for Sustainable Development. John Wiley & Sons.

MacArthur, E. (2013, February 6). Does a circular economy make sense? https://www.weforum.org/stories/2013/02/does-a-circular-economy-make-sense/

MacArthur, E. (2015, October 1). How the circular economy can help us achieve the Global Goals. https://www.weforum.org/stories/2015/10/how-the-circular-economy-can-help-us-achieve-the-global-goals/

MacArthur, E. (2016a, January 19). How can we create a world where plastic never becomes waste? https://www.weforum.org/stories/2016/01/how-can-we-create-a-world-where-plastic-never-becomes-waste/

MacArthur, E. (2016b, January 23). Only a circular economy will lead to prosperity for all. https://www.weforum.org/stories/2016/01/only-a-circular-economy-will-lead-to-prosperity-for-all/

MacArthur, E. (2018). How to stop plastic pollution at source. https://www.weforum.org/stories/2018/11/how-stop-plastic-pollution-source-ellen-macarthur-global-commitment/

MacArthur, E. (2019, January 24). Our food system is no longer fit for the 21st century. Here are three ways to fix it. https://www.weforum.org/stories/2019/01/how-to-build-a-circular-economy-for-food/

MacArthur, E., & van Houten, F. (2021, February 11). 3 shifts can scale the circular economy – triggering a more resilient, prosperous system. https://www.weforum.org/stories/2021/02/3-shifts-can-scale-the-circular-economy-ellen-macarthur-frans-van-houten/

Mango, F., & Vincent, R. C. (2025). Does polycentric climate governance drive the circular economy? Evidence from subnational spending and dematerialization of production in the EU. Ecological Economics, 231, 1–18. https://doi.org/https://doi.org/10.1016/j.ecolecon.2025.108533

McDonough, W., & Braungart, M. (2002). Cradle to Cradle: Remaking the Way We Make Things. North Point Press.

Meadows, D. H., Club of Rome, & Associate, P. (Eds.). (1974). The limits to growth: a report for the Club of Rome's Project on the Predicament of Mankind (2th ed.). Universe Books.

Metro News. (2025, October 7). TPA Bukit Pinang Disulap Jadi RTH dan Jalur Pedestrian, DPRD Samarinda Optimistis Proyek Beri Wajah Baru Kota. https://www.metronews.co/tpa-bukit-pinang-disulap-jadi-rth-dan-jalur-pedestrian-dprd-samarinda-optimistis-proyek-beri-wajah-baru-kota/

Ministry of Environment and Food Denmark, Embassy of Denmark, & Kementerian Lingkungan Hidup dan Kehutanan. (2018). Background Study Strategic Sector Cooperation Denmark-Indonesia Circular Economy and Solid Waste Management. https://eng.mst.dk/media/cq4fwnuq/background-study-ssc-indonesia-2018.pdf

Moore, N. (2006). How to Do Research: The Practical Guide to Designing and Managing Research Projects. Facet Publishing. https://doi.org/https://doi.org/10.29085/9781856049825.011

Mubarokah, A., Riady, B. A., & Simanjuntak, E. R. (2024). Circular Economy in Customizable Furniture: Applying Norm Activation Model and the Impact of Green Product Perception to Willingness to Pay More. Pakistan Journal of Life and Social Sciences, 22(2), 8336–8349. https://doi.org/https://doi.org/10.57239/PJLSS-2024-22.2.00629

Müller, S. (2016, June 18). The SWITCH to Green Flagship Initiative. https://www.switchtogreen.eu/the-flagship-intiative/

Nasution, R. (Ed.). (2021, September 26). Indonesia vows to continue transformation toward circular economy. https://en.antaranews.com/news/191141/indonesia-vows-to-continue-transformation-toward-circular-economy

Naustdalslid, J. (2014). Circular economy in China – the environmental dimension of the harmonious society. International Journal of Sustainable Development & World Ecology, 21(4), 303–313. https://doi.org/10.1080/13504509.2014.914599

Neuman, W. L. (2014). Social Research Methods: Qualitative and Quantitative Approaches (7th ed.). Pearson Education Limited.

Nguyen, H. T. T. (2023). Integrating the valence theory and the norm activation theory to understand consumers' e-waste recycling intention. Chinese Journal of Population, Resources and Environment, 21, 26–36. https://doi.org/https://doi.org/10.1016/j.cjpre.2023.03.003

Ofori, D., & Mensah, A. O. (2022). Sustainable electronic waste management among households: a circular economy perspective from a developing economy. Management of Environmental Quality: An International Journal, 33(1), 64–85. https://doi.org/10.1108/MEQ-04-2021-0089

Pansera, M., Genovese, A., & Ripa, M. (2021). Politicising Circular Economy: What Can We Learn from Responsible Innovation? Journal of Responsible Innovation, 8(3), 471–477. https://doi.org/10.1080/23299460.2021.19233

Passaro, P., & Perchinunno, P. (2024). Statistical analysis of the circular economy for the intervention policies of the NRRP. British Food Journal, 126(1), 98–112. https://doi.org/10.1108/BFJ-09-2022-0796

Pauli, G. (n.d.). The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs. Paradigm Publications.

Pearce, D. W., & Turner, R. K. (1990). Economics of natural resources and the environment. Harvester Wheatsheaf.

Pemerintah Kota Samarinda. (2012). Peraturan Walikota (PERWALI) Kota Samarinda Nomor 27 Tahun 2012 Tata Cara Pemungutan Retribusi Pelayanan Persampahan/Kebersihan. JDIH BPK. https://peraturan.bpk.go.id/Details/82714/perwali-kota-samarinda-no-27-tahun-2012

Pemerintah Kota Samarinda. (2016). Rencana Pembangunan Jangka Menengah 2016-2021. PPID Samarinda. https://ppid.samarindakota.go.id/storage/Plugin/PPID/2018-09/27/rencana-pembangunan-jangka-menengah-2016-2021-dWIYjDmrHE.pdf

Pemerintah Kota Samarinda. (2020). Peraturan Walikota (PERWALI) Kota Samarinda Nomor 52 Tahun 2020 Penetapan Tarif Retribusi Pelayanan Persampahan/Kebersihan. JDIH BPK. https://peraturan.bpk.go.id/Details/184841/perwali-kota-samarinda-no-52-tahun-2020

Pemerintah Kota Samarinda. (2021). Rencana Pembangunan Jangka Menengah Daerah Kota Samarinda Tahun 2021- 2026. PPID Samarinda. https://ppid.samarindakota.go.id/storage/Plugin/PPID/2021-10/08/rpjmd-2021-2026-DKbY9DSPqc.pdf

Pemerintah Kota Samarinda. (2022). Peraturan Walikota (Perwali) Kota Samarinda Nomor 18 Tahun 2022 tentang Pengawasan dan Penerapan Sanksi Administratif Pengelolaan Sampah. JDIH BPK. https://peraturan.bpk.go.id/Details/244063/perwali-kota-samarinda-no-18-tahun-2022

Pemerintah Kota Samarinda. (2025). Rencana Pembangunan Jangka Menengah Daerah Kota Samarinda Tahun 2025-2029. PPID Samarinda. https://ppid.samarindakota.go.id/storage/Plugin/PPID/2025-10/20/rpjmd-pemerintah-kota-samarinda-2025-2029-nqK8LeCxvn.pdf

Pemerintah Provinsi Kalimantan Timur. (2008). Rencana Pembangunan Jangka Panjang Daerah Provinsi Kalimantan Timur 2005-2025. Bappeda Kalimantan Timur. https://bappeda.kaltimprov.go.id/beranda/data-center/category/download/rpjpd-kaltim-tahun-2005-2025

Pemerintah Provinsi Kalimantan Timur. (2009). Rencana Pembangunan Jangka Menengah Daerah 2009-2013. Bappeda Kalimantan Timur. https://bappeda.kaltimprov.go.id/beranda/data-center/category/download/rpjmd-provinsi-kalimantan-timur-2009-2013

Pemerintah Provinsi Kalimantan Timur. (2014). Rencana Pembangunan Jangka Menengah Daerah 2013-2018. Bappeda Kalimantan Timur. https://bappeda.kaltimprov.go.id/beranda/data-center/category/download/rpjmd-provinsi-kalimantan-timur-2013-2018

Pemerintah Provinsi Kalimantan Timur. (2019). Rencana Pembangunan Jangka Menengah Daerah 2019-2023. Bappeda Kalimantan Timur. https://bappeda.kaltimprov.go.id/beranda/data-center/category/download/rancangan-rpjmd-provinsi-kalimantan-timur-2019-2023

Permana, R., Farhana, N., & Anwar, R. (2024). Perbandingan Kebijakan Pemerintah Kota Samarinda dengan Pemerintah Pusat dalam Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga. Unit Jaringan Dokumentasi dan Informasi Hukum BPK Perwakilan Kalimantan Timur. https://ujdih.bpkkaltim.com/file/00fc6a83-199e-11f0-82f4-6cad219cab85

Pijar.asia. (2025, July 7). DPRD Samarinda Usulkan Penambahan TPS, Kurangi Kebiasaan Buang Sampah Sembarangan. https://www.pijar.asia/dprd-samarinda-usulkan-penambahan-tps-kurangi-kebiasaan-buang-sampah-sembarangan/

Polman, P., & MacArthur, E. (2018). 4 things companies can do to fix the plastics problem. https://www.weforum.org/stories/2018/02/how-companies-can-fix-plastics-ellen-macarthur-paul-polman/

Polyakov, M., Khanin, I., Shevchenko, G., & Bilozubenko, V. (2021). Constructing a Model of National Production System for Builing a Circular Economy for International Trade Involvement. Entrepeneurship and Sustainibility Issues, 9(1), 287–299. https://doi.org/http://doi.org/10.9770/jesi.2021.9.1(17)

Pramudianto, A. (2023). The Existence of International Agreements on National and Regional Legislation Related to Handling Marine Plastic Waste in Indonesia. International Journal of Law and Politics Studies. https://doi.org/10.32996/ijlps.2023.5.6.9

ptasianarecycleindonesia. (2023, December 28). Panggilan kepada seluruh Eco Warriors... Kali ini Dinas Lingkungan Hidup Provinsi Kalimantan Timur, bersama Forum Komunikasi Bank Sampah Provinsi. https://www.instagram.com/ptasianarecycleindonesia/p/C1YrtbJpvsz/

ptasianarecycleindonesia. (2024a, January 16). Aksi Bersih Lingkungan ARI Pada Pesta Rakyat Kaltim dalam memperingati Hut Provinsi Kaltim Ke-67. Berhasil mengurangi 23 kg sampah. https://www.instagram.com/ptasianarecycleindonesia/reel/C2JgTLcujPM/

ptasianarecycleindonesia. (2024b, February 17). Salam Eco Warriors. Dalam rangka memeriahkan Hari Peduli Sampah Nasional dan bertujuan menumbuhkan rasa sadar pada masyarakat akan kepedulian terhadap. https://www.instagram.com/ptasianarecycleindonesia/p/C3bWup-hnqR/

ptasianarecycleindonesia. (2024c, February 28). ARI Clean Up Day Sabtu 24 Februari 2024 bertempat di Perum Sungai Keledang Mas, Samarinda Seberang. Dalam rangka merayakan Hari Peduli Sampah Nasional, berkolaborasi dengan Dinas Lingkungan Hidup. https://www.instagram.com/ptasianarecycleindonesia/reel/C34Y2obOFzk/

ptasianarecycleindonesia. (2024d, March 9). Kali ini, ARI ikut berpartisipasi dalam kegiatan Aksi Bersih Negeri #aksibersihnegeri2024 yang diadakan oleh Kementrian Lingkungan Hidup dan Kehutanan (KLHK). https://www.instagram.com/ptasianarecycleindonesia/reel/C4SRM25qJH0/

Rastegari, H., Petrescu, D. C., & Petrescu-Mag, R. M. (2023). Factors affecting retailers' fruit waste management: Behavior analysis using the theory of planned behavior and norm activation model. Environmental Development, 47, 1–12. https://doi.org/https://doi.org/10.1016/j.envdev.2023.100913

Rizqi, A. N. (2017, October 24). Jateng & Denmark Kerja Sama Pengelolaan Sampah. Bisnis.Com. https://semarang.bisnis.com/read/20171024/535/766743/jateng-denmark-kerja-sama-pengelolaan-sampah#goog_rewarded

Rofila, R. Q. (2022). Global Food Waste on Circular Economy and Knowledge Co-Production. Journal Od World Trade Studies, 7(2), 53–66. https://doi.org/https://doi.org/10.22146/jwts.v7i2.4827

Sajjad, A., Zhang, Q., Asmi, F., Anwar, M. A., & Bhatia, M. (2024). Identifying the motivating factors to promote socially responsible consumption under circular economy: A perspective from norm activation theory. Journal of Retailing and Consumer Services, 76, 1–15. https://doi.org/https://doi.org/10.1016/j.jretconser.2023.103544

Sapos.co.id. (2022, November 9). KTP Diambil, Diberi Waktu Dua Hari; Puluhan Pembuang Sampah Terjaring Operasi Yustisi. https://www.sapos.co.id/metropolis/2454188892/ktp-diambil-diberi-waktu-dua-hari-puluhan-pembuang-sampah-terjaring-operasi-yustisi

Shooshtarian, S., Hosseini, M. R., Kocaturk, T., Arnel, T., & Garofano, N. T. (2022). Circular economy in the Australian AEC industry: investigation of barriers and enablers. Building Research & Information, 51(1), 56–68. https://doi.org/10.1080/09613218.2022.2099788

Silva, F. C., Shibao, Fabio Ytoshi Kruglianskas, I., Barbieri, J. C., & Sinisgalli, P. A. A. (2019). Circular economy: analysis of the implementation of practices in the Brazilian network. Revista de Gestão, 26(1), 39–60. https://doi.org/https://doi.org/10.1108/REGE-03-2018-0044

Singarimbun, L. A. S. (2022). Analyzing the Development Cooperation between Indonesia and Denmark in Developing a Circular Economy. Journal of World Trade Studies, 7(1), 49-59. https://journal.ugm.ac.id/v3/JWTS/article/view/4828

SIPSN. (n.d.). Timbulan Sampah. Retrieved September 20, 2025, from https://sipsn.kemenlh.go.id/sipsn/public/data/timbulan

Stahel, W. R. (2010). The Performance Economy. Palgrave Macmillan.

Stahel, W. R., & Reday-Mulvey, G. (1981). Jobs for tomorrow: the potential for substituting manpower for energy (1st ed.). Vantage.

Steinfatt, K. (2020). Trade policies for a circular economy: What can we learn from WTO experience? In WTO Staff Working Paper (Issue 2020/10). World Trade Organization. https://doi.org/https://doi.org/10.30875/2ced559e-en

Stephenson, B. (2014, November 5). Why the circular economy makes business sense. https://www.weforum.org/stories/2014/11/making-transition-circular-economy/

Swarakaltim.com. (2024, December 3). Rusmadi Apresiasi Bank Sampah sebagai Penggerak Ekonomi Sirkular Samarinda. https://swarakaltim.com/2024/12/03/rusmadi-apresiasi-bank-sampah-sebagai-penggerak-ekonomi-sirkular-samarinda/

Switch2Green. (n.d.-a). Creating tools to build capacity training. Retrieved October 23, 2025, from https://www.switchtogreen.eu/training-and-capacity-building/

Switch2Green. (n.d.-b). Map of EU Inclusive Green Economy Projects. Retrieved October 23, 2025, from https://switchtogreen.eu/map-of-projects/

UN Environmental Programme. (2018, January 26). UN Environment and Ellen MacArthur Foundation sign new agreement. https://www.unep.org/news-and-stories/press-release/un-environment-and-ellen-macarthur-foundation-sign-new-agreement

UN Environmental Programme. (2021). Concept Note Global Alliance on Circular Economy and Resource Efficiency (GACERE) Towards Just Transitions. https://wedocs.unep.org/bitstream/handle/20.500.11822/40298/GACERE_ConceptNote.pdf?sequence=1&isAllowed=y

UNDP. (2023, July 20). Modul 1 – 6 Circular Economy. https://www.undp.org/indonesia/publications/modul-1-6-circular-economy

University of Bradford. (n.d.). Innovation, Enterprise and Circular Economy MBA. Retrieved October 20, 2025, from https://www.bradford.ac.uk/courses/pg/innovation-enterprise-and-circular-economy/

Vince, J., & Willis, K. A. (2025). The gaps and opportunities for non-state actors in plastics circular economy approaches. Cambridge Prisms: Plastics, 3(e4), 1–9. https://doi.org/https://doi.org/10.1017/plc.2025.3

Von Bertalanffy, L. (1950). An outline of general system theory. The British Journal for the Philosophy of Science, 1(2), 134–165. https://www.jstor.org/stable/685808

World Bank Group. (2025). Clean Cities, Bright Futures: Accelerating Investment and Reforms in Solid Waste Management in Developing Countries.

World Economic Forum, & PwC. (2018). Circular Economy in Cities Evolving the model for a sustainable urban future. https://www3.weforum.org/docs/White_paper_Circular_Economy_in_Cities_report_2018.pdf

World Economy Forum. (2025, August). Code of Conduct. https://www.weforum.org/about/code-of-conduct/

Wysokińska, Z. (2020). A Review of Transnational Regulations in Environmental Protection and the Circular Economy. Comparative Economic Research. Central and Eastern Europe, 23(4), 148–168. https://doi.org/https://doi.org/10.18778/1508-2008.23.32

Yunus, M. (2025, May 14). Amarah Wali Kota Samarinda dan Gunung Sampah di Sempaja Utara, Siapa yang Bertanggung Jawab? Beritabaruterkini. https://beritabaruterkini.com/amarah-wali-kota-samarinda-dan-gunung-sampah-di-sempaja-utara-siapa-yang-bertanggung-jawab/

Zhao, S. (2021). Chapter 7 - Thermochemical processes for biohydrogen production. In Q. Zhang, C. He, J. Ren, & M. Goodsite (Eds.), Waste to Renewable Biohydrogen (pp. 139–177). Academic Press. https://doi.org/https://doi.org/10.1016/B978-0-12-821659-0.00011-3