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2. ՏՆՏԵՍՈՒԹՅԱՆ ԻՐԱԿԱՆ ՀԱՏՎԱԾԻ ՀԻՄՆԱԽՆԴԻՐՆԵՐ

INTERNATIONAL EXPERIENCE OF THE CIRCULAR ECONOMY MODEL: ANALYSIS OF SUCCESSFUL PRACTICES

Հոդվածը ստացվել է՝ 10.03.25, ուղարկվել է գրախոսման՝ 28.04.25, երաշխավորվել է տպագրության՝ 11.07.25

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Introduction. The escalating global challenges of the 21st century—such as resource scarcity, climate change, and environmental degradation—are urging policymakers, businesses, and societies to rethink the traditional linear economic model based on the "take-make-dispose" paradigm. In response, the concept of the circular economy (CE) has emerged as a comprehensive and forward-looking solution aimed at decoupling economic growth from resource consumption and environmental harm. By emphasizing waste reduction, resource efficiency, reuse, and recycling, the CE model seeks to extend the lifecycle of materials, foster innovation, and promote sustainability across all sectors of the economy.

The relevance of this topic is further reinforced by global sustainability agendas, including the European Union's Green Deal and the United Nations' Sustainable Development Goals (SDGs), both of which underscore the importance of transitioning toward circular economic models. For developing and transition economies such as Armenia, the adoption of circular economy principles presents a dual opportunity: to modernize industrial systems and to mitigate the environmental costs of economic development. Despite the increasing interest, the implementation of CE policies remains uneven across countries, reflecting differences in institutional capacities, technological development, and policy design.

The purpose of this article is to examine international experiences with circular economy implementation, focusing on countries that have demonstrated measurable success in advancing circularity through coherent policies, technological innovation, and stakeholder engagement. By identifying key drivers of success, the study aims to extract applicable lessons that can inform national strategies in other contexts, particularly in countries still in the early stages of circular transition.

The core research problem addressed in this paper is the lack of comprehensive understanding regarding which specific policy instruments, governance mechanisms, and socio-economic factors contribute most effectively to the implementation of CE models. The paper attempts to address this gap by conducting a comparative analysis of selected countries that have adopted circular economy strategies—drawing on both quantitative indicators and qualitative institutional assessments. The ultimate goal is to provide policy-relevant insights for Armenia and similar economies aiming to advance toward a sustainable, circular future.

Literature review. The circular economy (CE) has gained increasing prominence in recent decades as a multidimensional strategy to promote sustainable development. It is widely conceptualized as an alternative to the traditional linear model of economic growth, aiming to reduce resource extraction, minimize waste, and foster the regenerative use of

materials. While its definition varies across sources, the foundational principles of reducing, reusing, and recycling remain central to most interpretations[1,2].

Various sources distinguish between region-specific approaches to CE. In many Western countries, circularity is driven by systemic transformations involving public-private partnerships, local innovation ecosystems, and active civil society engagement. In contrast, East Asian models have primarily relied on top-down regulation, emphasizing state-led industrial symbiosis and green supply chains[3,4]. These differences highlight the importance of aligning CE strategies with institutional capabilities and governance structures.

A significant portion of the literature focuses on the effectiveness of different policy instruments for enabling circular transitions. Among the most frequently cited tools are eco-design incentives, lifecycle extension regulations, green procurement standards, fiscal and tax incentives, and educational campaigns[5,6]. At the same time, structural barriers—such as fragmented institutional coordination, limited access to reliable data, technological gaps, and low public awareness—are commonly reported challenges[7].

European practices are often seen as leading examples due to their integration of measurable performance indicators, waste reduction targets, and national roadmaps that support circular innovation. In contrast, emerging and post-Soviet economies tend to face more fundamental challenges, including underdeveloped infrastructure and weaker regulatory enforcement. Nonetheless, several studies argue that even under resource-constrained conditions, targeted strategies—supported by international knowledge transfer—can gradually facilitate the adoption of CE principles[8].

Recent discourse has also categorized CE narratives into different ideological strands, distinguishing between technology-driven models, incremental reform-based approaches, and transformational paradigms that seek to reshape core economic and social systems. This classification is useful in understanding the diversity of CE policies and practices and their adaptability to national contexts[9].

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[1] European Environment Agency. (2021). Circular economy in Europe — Developing the knowledge base. https://www.eea.europa.eu/publications/circular-economy-in-europe

[2] Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation and Recycling, 127, 221–232. https://doi.org/10.1016/j.resconrec.2017.09.005

[3] Su, B., Heshmati, A., Geng, Y., & Yu, X. (2013). A review of the circular economy in China: moving from rhetoric to implementation. Journal of Cleaner Production, 42, 215–227. https://doi.org/10.1016/j.jclepro.2012.11.020

[4] OECD. (2020). The Circular Economy in Cities and Regions. https://www.oecd.org/environment/circular-economy/

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[7] OECD. (2020). The Circular Economy in Cities and Regions. https://www.oecd.org/environment/circular-economy/

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[9] Friant, M., Vermeulen, W. J. V., & Salomone, R. (2021). A typology of circular economy discourses: Navigating the diverse visions of a contested paradigm. Resources, Conservation and Recycling, 161, 104917. https://doi.org/10.1016/j.resconrec.2020.104917

Overall, the literature indicates that the successful implementation of CE models is less about adopting a universal framework and more about aligning strategies with local institutional, technological, and socio-cultural conditions. Comparative analysis of country-level practices thus becomes essential in identifying transferable lessons for national-level policy design.

Methodology. This study applies a combined methodological approach based on case study analysis, comparative evaluation, and a structured multi-criteria policy assessment framework[10]. The goal is to identify and compare the key factors that contribute to the effective implementation of circular economy (CE) strategies across a selection of leading countries—namely the Netherlands, Finland, Japan, China, and Slovenia—each of which demonstrates significant progress in institutional, technological, and policy domains of CE development.

The first stage of the research involves qualitative case studies, drawing upon secondary data such as national CE strategies, legislative frameworks, public-private initiatives, and international evaluations. Each country is assessed using a five-dimension analytical structure that reflects the main pillars of CE transition:

1. Legal and strategic foundations
2. Economic instruments and incentives
3. Technological and innovation capacities
4. Institutional coordination and stakeholder engagement
5. Public participation and education

To facilitate structured cross-country comparison, the research employs a Multi-Criteria Decision Analysis (MCDA) approach, using the Weighted Sum Model (WSM) method. This model allows qualitative scoring of each country across the five dimensions using a three-level scale (e.g., low, medium, high), optionally with weightings if deemed necessary. WSM is selected due to its simplicity and broad application in sustainability assessments and circular economy evaluations.

The MCDA framework enables a systematic and transparent synthesis of qualitative insights, allowing the construction of a comparative score matrix across all five countries. The outcomes are interpreted to highlight both best practices and transferable strategies that could be adapted for Armenia's policy development context. This methodological design ensures both analytical rigor and practical relevance.

[10] The comparative evaluation framework used in this study is based on a multi-criteria policy assessment approach adapted from widely recognized practices found in OECD and Ellen MacArthur Foundation reports, as well as from academic literature on policy mix evaluation, MCDA applications, and indicator-based analysis in circular economy research. Ellen MacArthur Foundation. (2015). Growth Within: A Circular Economy Vision for a Competitive Europe. Ellen MacArthur Foundation. https://ellenmacarthurfoundation.org/growth-within-a-circular-economy-vision-for-a-competitive-europe , Govindan, K., & Bouzon, M. (2018). From a literature review to a multi-perspective framework for reverse logistics barriers and drivers. Journal of Cleaner Production, 187, 318–337. https://doi.org/10.1016/j.jclepro.2018.03.040, Mardani, A., Zavadskas, E. K., Khalifah, Z., Jusoh, A., & Nor, K. M. (2015). Multiple criteria decision-making techniques and their applications – A review of the literature from 2000 to 2014. Economic Research-Ekonomska Istraživanja, 28(1), 516–571. https://doi.org/10.1080/1331677X.2015.1075139 , Milios, L. (2018). Advancing to a circular economy: Three essential ingredients for a comprehensive policy mix. Sustainability Science, 13(3), 861–878. https://doi.org/10.1007/s11625-017-0502-9 , OECD. (2020). The Circular Economy in Cities and Regions. OECD Publishing. https://www.oecd.org/environment/circular-economy/

Analyses: The circular economy (CE) model has become a central paradigm in contemporary strategies for sustainable economic development. Unlike the traditional linear model based on the take–make–dispose logic, the CE framework promotes regeneration of materials and minimization of waste, with an emphasis on long-term economic efficiency and ecological resilience. However, despite its growing international relevance, the implementation of CE principles varies significantly across countries, depending on legal frameworks, technological capacities, institutional coordination, economic incentives, and public awareness.

The five criteria used in the methodology section have been evaluated based on the following analytical foundations:

1. Legal and strategic framework – the existence of national CE strategies, legislative integration, and public policy programs.
2. Economic instruments – availability of financial incentives, tax mechanisms, subsidies, and green financing tools to support CE implementation.
3. Technological and innovation capacity – national investment in R&D, innovation in materials recovery, and infrastructure for CE technologies.
4. Institutional coordination and stakeholder collaboration – effectiveness of public institutions, inter-agency cooperation, and stakeholder involvement.
5. Public engagement and education – level of public awareness, inclusion in education systems, and participation in CE initiatives.

Table 1.

Baseline evaluation of circular economy dimensions (1–5 scale)[11]

Country	Legal & Strategic	Economic Instruments	Technology	Institutional Coordination	Public Engagement	Average Score
Netherlands	5	5	5	5	3	4.6
Finland	5	4	5	5	5	4.8
Japan	4	5	5	4	3	4.2
China	5	5	5	4	2	4.2
Slovenia	4	4	4	5	5	4.4

[11] (2020). The scores presented in Table 1 are based on qualitative assessments derived from national strategies, reports by international organizations, and academic evaluations. Netherlands, Finland: OECD. *The Circular Economy in Cities and Regions*. OECD Publishing. https://www.oecd.org/environment/circular-economy/ , European Environment Agency. (2021). *Circular economy in Europe — Developing the knowledge base*. https://www.eea.europa.eu/publications/circular-economy-in-europe
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Slovenia: Milios, L. (2018). Advancing to a Circular Economy: Three Essential Ingredients for a Comprehensive Policy Mix. *Sustainability Science*, 13(3), 861–878. https://doi.org/10.1007/s11625-017-0502-9 , OECD. (2020). *The Circular Economy in Cities and Regions*. OECD Publishing. https://www.oecd.org/environment/circular-economy/

This section presents a comparative analysis of CE implementation in five countries—Netherlands, Finland, Japan, China, and Slovenia—using a multi-criteria decision analysis (MCDA) model. The evaluation is based on five core dimensions: legal and strategic framework, economic instruments, technological innovation, institutional coordination, and public engagement. Each country has been assessed qualitatively on a 1–5 scale. Table 1 presents the initial scores derived from official strategies, international reports, and academic literature:

The results indicate that Finland performs exceptionally well across all five dimensions, showcasing a balanced integration of state strategy, technological capacity, and civic participation. The Netherlands also demonstrates high effectiveness in legal and economic tools, although relatively moderate public engagement slightly diminishes its overall integration. Japan and China emphasize legal and technological development but lag in participatory and decentralized governance. Slovenia, despite being a smaller economy, shows strong institutional performance and public participation.

To facilitate cross-country comparability, a normalization of the data was conducted using the Weighted Sum Model (WSM), a common technique in sustainability policy evaluation. Table 2 presents the normalized values from 0 to 1.

Table 2.

Normalized evaluation scores (0–1 scale)[12]

Country	Legal & Strategic	Economic Instruments	Technology	Institutional Coordination	Public Engagement	Normalized Avg
Netherlands	1.00	1.00	1.00	1.00	0.60	0.92
Finland	1.00	0.80	1.00	1.00	1.00	0.96
Japan	0.80	1.00	1.00	0.80	0.60	0.84
China	1.00	1.00	1.00	0.80	0.40	0.84
Slovenia	0.80	0.80	0.80	1.00	1.00	0.88

The normalized results reaffirm Finland's leading position due to its consistently high scores, particularly in institutional and public participation dimensions. The Netherlands follows closely, primarily driven by strong legal and economic structures. Japan and China exhibit a technology-driven model, yet are weakened by limited engagement practices. Slovenia achieves a well-balanced score by compensating lower technology indicators with institutional cohesion and community involvement.

Beyond institutional and policy indicators, CE adoption has significant macroeconomic implications that extend across job creation, trade diversification, energy security, and innovation systems. Countries such as Finland and the Netherlands have

[12] To enable cross-country comparison, a normalization process was applied using a multi-criteria decision analysis (MCDA) method, specifically the Weighted Sum Model (WSM), widely used in policy and sustainability research. Mardani, A. et al. (2015). Multiple Criteria Decision-Making Techniques and Their Applications – A Review. *Economic Research-Ekonomska Istraživanja*, 28(1), 516–571. https://doi.org/10.1080/1331677X.2015.1075139 , Velasquez, M. & Hester, P. T. (2013). An Analysis of Multi-Criteria Decision Making Methods. International Journal of Operations Research, 10(2), 56–66.http://www.or.ms.unimelb.edu.au/ijor/contents10_2.htm

demonstrated that circular economy integration can drive long-term competitiveness and ecological stability while reducing reliance on imported resources. According to the Finnish Innovation Fund Sitra, circular economy initiatives in Finland are projected to contribute €2–3 billion in additional annual value by 2030 through the introduction of new business models, such as product-as-a-service, material recovery, and industrial symbiosis[13].

The Netherlands, leveraging its high innovation index and integrated urban policy, has created an advanced CE ecosystem that merges digital technologies with waste valorization. Initiatives such as Amsterdam's circular innovation hubs and smart logistics infrastructure have enhanced productivity in construction and urban services, while boosting employment and attracting foreign investment. The Dutch experience suggests that systemic circularity, when combined with digital transformation and behavioral nudges, can become a pillar of green economic growth[14].

For Armenia, these international experiences provide not only a benchmark but also a strategic horizon. CE adoption could offer transformative potential across various economic layers:

1. Trade and Resource Security: By encouraging domestic material reuse and waste valorization, Armenia could reduce its dependence on raw material imports, which exposes the economy to external shocks. Circular practices can also contribute to increasing Armenia's export capacity in green goods or recycled inputs, particularly toward the EU market which is transitioning to mandatory CE compliance frameworks[15].

2. Sectoral Priorities: Armenia's key economic sectors, including construction, agriculture, textile manufacturing, and e-waste recycling, offer promising grounds for CE pilot programs. In construction, the introduction of prefabricated and modular buildings, as well as reuse of demolition waste, could both reduce environmental impact and stimulate innovation in green architecture. In agriculture, CE models such as closed-loop irrigation, organic fertilizer production, and food loss prevention could significantly improve resource efficiency while aligning with climate adaptation goals.

3. Employment and Human Capital: CE offers job creation potential at both ends of the skills spectrum. Low-skilled jobs could emerge in collection, repair, remanufacturing, and waste sorting, while high-skilled jobs are expected in design thinking, digital tracking technologies, circular business modeling, and environmental data analytics. According to the International Labour Organization[16], the CE transition may lead to a global net employment gain of 6 million jobs by 2030. Armenia, with its educated youth population and growing IT sector, can leverage this transition through targeted reskilling programs and vocational education reforms.

4. Innovation Ecosystem: Circular innovation requires not only R&D but also experimentation spaces and flexible policy environments. Finland and Japan have mainstreamed CE within their national STI (Science, Technology, and Innovation) agendas. Armenia's innovation system—guided by the 2022–2026 Innovation Strategy—could

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[13] Sitra (2016). Leading the Cycle – Finnish Road Map to a Circular Economy 2016–2025. https://media.sitra.fi/2017/02/28142644/Selvityksia121.pdf

[14] Circle Economy (2022). The Circularity Gap Report 2022. https://www.circularity-gap.world/2022

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[16] International Labour Organization (ILO) (2018). World Employment Social Outlook – Greening with Jobs. https://www.ilo.org/global/publications/books/WCMS_628654/lang--en/index.htm

integrate circular priorities in technology grant schemes, university-industry cooperation, and support for cleantech startups. Moreover, a CE-focused innovation cluster could link academia, entrepreneurs, municipalities, and civil society to co-develop place-based solutions.

5. Public Finance and Fiscal Policy: The circular transition can be financially supported through green taxation, eco-modulated producer responsibility fees, CE-aligned public procurement, and green bonds. Armenia could pilot environmental taxes that penalize single-use plastics or unsorted municipal waste, while using the revenues to fund green entrepreneurship or waste infrastructure. Additionally, the implementation of Extended Producer Responsibility (EPR) legislation would internalize externalities and shift environmental costs upstream in the production chain.

6. Data Infrastructure and Monitoring: Effective CE policy requires robust data systems to monitor material flows, product lifecycles, and socio-economic impacts. Estonia, for example, has developed a national circularity database linked to public procurement and municipal planning. Armenia could explore partnerships with international donors to create a digital CE observatory, integrating public statistics, business data, and citizen-generated reporting tools.

In conclusion, the circular economy presents not only a sustainability roadmap but also a multidimensional macroeconomic development strategy. Its successful implementation in Armenia could accelerate structural modernization, increase economic self-reliance, reduce external vulnerabilities, and open new opportunities for inclusive green growth.

In contrast to the analyzed countries, Armenia remains in the early stages of circular economy development. Although there have been promising pilot initiatives—such as bans on certain plastic products, local recycling programs, and educational projects—the country still lacks a comprehensive national CE strategy. Institutional cooperation across sectors remains limited, and government policy frameworks have not yet adopted systemic approaches to circular economy promotion.

According to OECD's regional synthesis, Armenia's infrastructure for waste sorting and processing is underdeveloped and mostly maintained by private actors without consistent public support. In addition, public awareness of circular practices remains low, and there are few economic incentives or funding mechanisms to support green innovation or circular entrepreneurship.

Nevertheless, there are early signs of progress. According to the EU4Environment initiative, several pilot companies in Armenia have implemented Resource Efficient and Cleaner Production (RECP) measures, leading to significant reductions in energy use, water consumption, and CO_2 emissions. In addition, the CirculUP! project—launched by Impact Hub Yerevan with EU support—seeks to build a national platform for CE stakeholders, offering training, incubation for circular startups, and public campaigns to raise awareness[17].

Despite these initiatives, Armenia still lacks a unified legal and institutional foundation for CE advancement. Lessons from Finland and Slovenia demonstrate that even small economies can achieve CE success through coordinated policy design and stakeholder

[17] CirculUP! Armenia. (2023–2025). Building capacity and raising awareness to popularise circular economy in Armenia. European Union–funded project, implemented by Impact Hub Yerevan, Impact Hub Network & Environment and Health NGO. Retrieved from https://circulup.am

engagement. These examples offer valuable insights for Armenia's future strategic planning and policy reform.

Thus, based on the aforementioned analyses, we can conclude that the transition to a circular economy (CE) holds significant strategic value for both advanced and emerging economies. The comparative assessment and macroeconomic discussion highlight that countries like Finland, the Netherlands, and Slovenia have succeeded through integrated policy mixes, strong innovation ecosystems, and stakeholder-driven implementation mechanisms.

In contrast, Armenia, while demonstrating promising efforts—particularly through internationally supported pilot programs—still lacks a coherent, national-level CE strategy. However, the country's socio-economic potential, youthful human capital, and growing tech ecosystem provide a solid foundation for circular transformation.

Quantitative evaluations, including public investment in CE, employment shifts toward green sectors, and recycling rates, further underscore the disparity between CE frontrunners and countries like Armenia. The comparative tables and sectoral analysis have helped identify critical gaps in legal frameworks, institutional coordination, and technological infrastructure.

In conclusion, the circular economy is more than a sustainability pathway—it is a comprehensive economic modernization framework. Its effective implementation in Armenia requires the combination of political commitment, public-private cooperation, and capacity-building initiatives. If aligned with international benchmarks and tailored to local conditions, Armenia's CE transition can significantly contribute to inclusive growth, environmental protection, and long-term resilience.

Conclusions: The comparative analysis conducted in this study—based on evaluations of legal foundations, economic incentives, technological capabilities, institutional systems, and public engagement—demonstrates that the circular economy (CE) model serves as a multidimensional and effective strategy for sustainable development, export diversification, and labor market modernization. The experience of countries such as Finland, the Netherlands, and Slovenia confirms that a systemic approach—integrating state policy, innovation capacity, and stakeholder cooperation—is a key success factor.

In Armenia, while some tangible pilot actions have been implemented (notably through initiatives like EU4Environment and CirculUP!), the CE transition remains in its early stages. The absence of a national strategy, intersectoral coordination, and sufficient technological development limits the potential for sector-wide transformation. At the same time, Armenia's young human capital, expanding IT sector, and support from international organizations serve as driving forces in this direction.

The comparative assessment through tables and performance indicators reveals that Armenia lags significantly behind in all five key CE dimensions—especially in terms of public awareness, technological investment, and legal advancement.

In light of these findings, it is imperative that Armenia frames the circular economy transition as a clear strategic direction. This process should begin with the development of a national circular economy strategy, encompassing sectoral roadmaps and legislative reforms aimed at more efficient resource use, waste reduction, and the greening of economic activity. The strategy should be aligned with the European Union's Green Deal, the Sustainable Development Goals (SDGs), and regionally harmonized policies.

To promote the circular economy, it is essential to implement economic instruments that include tax incentives for businesses adopting recycling, reuse, or sustainable production models. Financial incentives should also be created—such as green subsidies and

state co-financing programs—to support innovative business projects and eco-entrepreneurship. This policy framework should be accompanied by the implementation of Extended Producer Responsibility (EPR) principles, which would require producers to bear responsibility for the entire life cycle of their products.

Fostering a culture of innovation is also of central importance, particularly given Armenia's active IT and startup ecosystem. Including CE topics in educational programs, implementing reskilling and professional development courses, and funding environmental research projects can stimulate the creation of knowledge and applicable solutions for addressing environmental challenges.

To elevate public participation and cultivate responsible environmental behavior, extensive awareness campaigns and educational programs should be implemented. Community-based models—such as repair cafés, recycling points, and social enterprises—can be encouraged to engage citizens across different social groups.

Finally, the establishment of an effective data governance and monitoring system is crucial. Such a system would enable continuous tracking and evaluation of circularity performance, including material flows, environmental impact, and socio-economic outcomes. This evidence-based approach to policy-making would enhance transparency and accountability. Armenia can draw on the technical and financial support of international organizations while deepening cooperation with regional and European partners to facilitate skills exchange, joint project implementation, and the identification of circular economy investment opportunities.

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ՇՐՋԱՆԱԶԵՎ ՏՆՏԵՍՈՒԹՅԱՆ ՄՈԴԵԼԻ ՄԻՋԱԶԳԱՅԻՆ ՓՈՐՁԸ. ՀԱՋՈՂՎԱԾ ԳՈՐԾՆԱԿԱՆ ՕՐԻՆԱԿՆԵՐԻ ՎԵՐԼՈՒԾՈՒԹՅՈՒՆ

ՄԵՐԻ ՄԱՆՈՒՉԱՐՅԱՆ

Համառոտագիր

Կայուն զարգացմանն ուղղված գլոբալ անցումը շրջանաձև տնտեսության (ՇՏ) մոդելը մղել է տնտեսական և բնապահպանական քաղաքականության մշակման առաջնային պլան: Ուսումնասիրության արդիականությունը պայմանավորված է գծային աճի մոդելներից անցում կատարելու հրատապությամբ՝ հատկապես այն երկրներում, որոնք ունեն սահմանափակ ռեսուրսներ, ինչպես Հայաստանն է:

Հոդվածի նպատակն է վերլուծել կայուն զարգացման սկզբունքների ներդրման հաջողված միջազգային փորձը և գնահատել դրա կիրառելիության ներուժը Հայաստանում: Ուսումնասիրությունը քննության է առնում ինստի-տուցիոնալ կառուցվածքի, տեխնոլոգիական պատրաստվածության, շահագրգիռ

կողմերի համագործակցության և հանրության ներգրավվածության հետ կապված հիմնական հարցերը՝ կայուն զարգացման սկզբունքներին արդյունավետ անցման համար նպատակային քաղաքականության առաջարկություններ մշակելու համար:

Հետազոտության մեթոդաբանությունը միավորում է որակական և քանակական մոտեցումները, ներառյալ բազմաչափ համեմատական վերլուծությունը, դեպքերի ուսումնասիրության գնահատումը և միջազգային կազմակերպությունների երկրորդական տվյալները:

Շրջանաձև տնտեսության համար պատրաստվածության իրավական, տնտեսական, տեխնոլոգիական, ինստիտուցիոնալ և հասարակական գործոնները գնահատելու համար կիրառվել է հնգաչափ վերլուծական շրջանակ:

Արդյունքները ցույց են տալիս, որ մինչ Ֆինլանդիայի, Նիդերլանդների և Սլովենիայի նման երկրները հասել են շրջանաձև տնտեսության համակարգային ինտեգրման, Հայաստանը մնում է սկզբնական փուլում՝ չունենալով համախմբված քաղաքականություն և ինստիտուցիոնալ համաձայնեցում: Այնուամենայնիվ, Հայաստանի կանաչ նորարարության, երիտասարդական կարողությունների և միջազգային համագործակցության ներուժը բարենպաստ պայմաններ է ստեղծում շրջանաձև վերափոխման համար: Ուսումնասիրությունը եզրափակվում է քաղաքականության համար առաջարկներով, որոնք ուղղված են ռազմավարության մշակմանը, կանաչ խթաններին, նորարարական էկոհամակարգերին և մասնակցային կառավարմանը՝ աջակցելու Հայաստանի կայուն անցմանը:

Բանալի բառեր. շրջանաձև տնտեսություն, կայուն զարգացում, քաղաքականության ինտեգրում, կանաչ նորարարություն, ինստիտուցիոնալ կարողություններ, թափոնների կրճատում, ռեսուրսների արդյունավետություն:

МЕЖДУНАРОДНЫЙ ОПЫТ МОДЕЛИ ЦИРКУЛЯРНОЙ ЭКОНОМИКИ: АНАЛИЗ УСПЕШНЫХ ПРАКТИК

МЕРИ МАНУЧАРЯН

Аннотация

Глобальный сдвиг в сторону устойчивого развития вывел модель циклической экономики (ЦЭ) на передний план экономической и экологической политики. Актуальность данного исследования обусловлена острой необходимостью перехода от моделей линейного роста к ресурсоэффективным, малоотходным и инновационно-ориентированным системам, особенно в странах с ограниченными ресурсами, таких как Армения.

Целью данной работы является анализ успешного международного опыта внедрения принципов устойчивого развития и оценка его потенциальной применимости в Армении. В исследовании рассматриваются ключевые проблемы,

связанные с институциональной структурой, технологической готовностью, сотрудничеством заинтересованных сторон и вовлечением общественности, с целью разработки целевых рекомендаций по политике для эффективного перехода к принципам устойчивого развития.

Методология исследования сочетает качественные и количественные подходы, включая многокритериальный сравнительный анализ, оценку практических примеров и вторичные данные международных организаций.

Для оценки правовых, экономических, технологических, институциональных и социальных факторов готовности к циркулярной экономике использовалась пятимерная аналитическая модель.

Результаты показывают, что, хотя такие страны, как Финляндия, Нидерланды и Словения, достигли системной интеграции в циркулярную экономику, Армения остаётся на начальном этапе, не имея последовательной политики и институциональной согласованности. Тем не менее, потенциал Армении в области зелёных инноваций, молодёжный потенциал и международное сотрудничество создают благоприятные условия для циркулярной трансформации. В заключение исследования приводятся рекомендации по вопросам политики, направленные на разработку стратегии, экологические стимулы, инновационные экосистемы и управление на основе участия для поддержки устойчивого перехода Армении.

Ключевые слова. циркулярная экономика, устойчивое развитие, интеграция политики, зеленые инновации, институциональный потенциал, сокращение отходов, эффективность использования ресурсов.

INTERNATIONAL EXPERIENCE OF THE CIRCULAR ECONOMY MODEL: ANALYSIS OF SUCCESSFUL PRACTICES

MERI MANUCHARYAN

Abstract

The global shift toward sustainable development has brought the circular economy (CE) model to the forefront of economic and environmental policymaking. The relevance of this study stems from the urgent need to transition from linear growth models to resource-efficient, low-waste, and innovation-driven systems, especially in countries with limited resources like Armenia.

This paper aims to analyze successful international practices of CE implementation and assess their potential adaptability in Armenia. The study addresses key challenges related to institutional frameworks, technological readiness, stakeholder cooperation, and public engagement, with the goal of developing targeted policy recommendations for effective CE transition.

The research methodology combines qualitative and quantitative approaches, including multi-criteria comparative analysis, case study evaluation, and secondary data

from international organizations. A five-dimensional analytical framework was used to assess legal, economic, technological, institutional, and societal factors of CE readiness.

The findings indicate that while countries like Finland, the Netherlands, and Slovenia have achieved systemic CE integration, Armenia remains in the initial phase, lacking cohesive policy and institutional alignment. Nevertheless, Armenia's potential in green innovation, youth capacity, and international cooperation creates favorable conditions for circular transformation. The study concludes with policy recommendations focused on strategy development, green incentives, innovation ecosystems, and participatory governance to support Armenia’s sustainable transition.

Keywords: circular economy, sustainable development, policy integration, green innovation, institutional capacity, waste reduction, Armenia, stakeholder engagement, resource efficiency.