

HO CHI MINH NATIONAL ACADEMY OF POLITICS

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**INSTITUTIONAL FRAMEWORKS FOR PROMOTING
CIRCULAR ECONOMY DEVELOPMENT
IN HO CHI MINH CITY**

DOCTORAL DISSERTATION SUMMARY

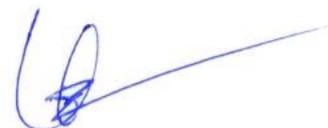
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INTRODUCTION

1. Rationale

Human development is confronting unprecedented ecological challenges. Current resource demand exceeds the Earth's regenerative capacity by 1.7 times, and by 2050, plastic waste is projected to outweigh fish in the oceans. In this context, the circular economy (CE) has emerged as a strategic approach to reconcile economic growth with environmental sustainability.

From a theoretical perspective, CE development entails a systemic transformation that requires institutional regulation and orientation. Institutions play a decisive role in establishing legal frameworks, allocating resources, coordinating actors, and fostering technological innovation, thereby transforming CE from experimental practice into a dominant development paradigm. However, institutional effectiveness depends on coherence and local implementation capacity.

Ho Chi Minh City (HCMC) has pioneered CE-related initiatives, including high-tech waste treatment, “zero-waste” models, and urban recycling programs. Nevertheless, significant barriers remain: uneven awareness among stakeholders; limited financial, credit, and technological instruments; and weak intersectoral coordination.

These constraints indicate that the core bottleneck lies not in technology but in the quality of urban-level institutions promoting CE. Under the pressures of growth-model transformation and international integration, systematic research on CE-promoting institutions in HCMC is both theoretically and practically urgent.

Accordingly, the dissertation, entitled *“Institutional frameworks for promoting circular economy development in Ho Chi Minh City”*, aims to provide scientific foundations and policy recommendations to improve CE institutions in the coming period.

2. Research objectives and tasks

2.1. Research objectives

The dissertation clarifies the theoretical and practical foundations of institutions promoting CE development. It assesses the current institutional framework in HCMC and proposes orientations and solutions to remove bottlenecks, improve effectiveness, and enhance institutional performance toward 2030, with a vision to 2045.

2.2. Research tasks

- Systematize and refine the theoretical basis of CE-promoting institutions;

- Review domestic and international literature on CE and related institutions;

- Examine experiences of selected localities and derive lessons for HCMC;

- Analyze the institutional framework in HCMC during 2015 - 2024;

- Propose directions and solutions for institutional improvement toward 2030, vision 2045.

3. Research object and scope

3.1. Research object

From a political economy perspective, the research object is city-level institutions promoting CE development. These are expressed through legal provisions, policies, governance mechanisms, and coordination among socio-economic actors to refine production relations and advance productive forces in the implementation of HCMC's CE strategy.

3.2. Research scope

3.2.1. Temporal and spatial scope

Temporal scope: The research is conducted for the period 2015-2024. On that basis, it proposes solutions toward 2030, with a vision to 2045.

Spatial scope: The study analyzes and evaluates institutions promoting CE development within the socio-economic space of Ho Chi Minh City prior to June 30, 2025.

3.2.2. Content scope

The dissertation focuses on formal institutions, including the system of laws and policies, governance mechanisms, economic instruments, and organizational structures that facilitate the formation and operation of the city-level circular economy model.

4. Methodology and research methods

4.1. Theoretical foundation

The dissertation is grounded in the theoretical framework of Marxism-Leninism and in the socio-economic development orientations and policies of the Communist Party and the State of Vietnam. It also selectively draws on relevant modern economic theories, practical experience in institutional frameworks that promote CE development in selected domestic and international localities, and the empirical context of Ho Chi Minh City during the period 2015-2024. These foundations serve as the basis for analyzing the socio-economic relations pertinent to the research topic.

4.2. Research methods

The dissertation employs an integrated, flexible combination of research methods across its chapters and sections to clarify both theoretical issues and the

practical realities of institutions promoting CE development. Specifically, the methods include: dialectical materialism; the logical-historical method; scientific abstraction; document synthesis and analysis; comparative analysis; systematization and secondary data analysis; sociological surveys; and difference analysis and forecasting.

5. Scientific and practical contributions of the dissertation

5.1. Scientific contributions

First, the dissertation selectively systematizes and further develops theoretical arguments to refine the conceptual foundations of institutions promoting CE development at the city level from a political economy perspective.

Second, it provides concrete empirical evidence for a systematic analysis of the institutionalization of CE in Ho Chi Minh City from 2015 to 2024.

Third, it proposes a theoretical approach to CE institutions aligned with the requirements of multi-actor governance in large urban contexts.

5.2. Practical contributions

First, the dissertation provides a comprehensive and up-to-date assessment of the institutional framework that promotes CE development in Ho Chi Minh City.

Second, it clearly identifies institutional constraints and their underlying causes in the City's CE development.

Third, it proposes a system of feasible, readily applicable solutions to improve CE institutions toward 2030, with a vision through 2045.

6. Scientific and practical significance of the dissertation

First, the dissertation contributes to the refinement of theoretical frameworks for institutions that promote CE development at both the national and, primarily, the city (provincial) level under the new conditions of Vietnam's socialist-oriented market economy and international integration.

Second, it provides scientific foundations for the design and implementation of CE legal and policy frameworks consistent with Vietnam's urban development characteristics.

Third, it reaffirms the central role of institutions in advancing the transformation of growth models and the transition toward a green, circular, and low-carbon economy.

7. Structure of the dissertation

In addition to the Introduction, Conclusion, list of the author's related publications, and References, the dissertation comprises 4 chapters and 13 sections.

Chapter 1

LITERATURE REVIEW

1.1. Overview of studies on institutions promoting economic development

International research consistently affirms the central role of institutions in advancing sustainable economic development. North, La Porta, and Rodrik emphasize that institutional quality is decisive for productivity and growth. Ostrom extends the analysis to polycentric governance models, highlighting community participation in resource management and environmental adaptation. Contemporary approaches indicate that digital transformation yields benefits only under flexible, inclusive, and adaptive institutional frameworks. Environmental studies by Nordhaus and the IPCC further confirm that institutions constitute the foundation of climate governance and emerging economic models.

In Vietnam, studies by Lê Du Phong, Nguyễn Hồng Nga, Phạm Thị Túy, Trần Quốc Toàn, Ngô Tuấn Nghĩa, and Lê Quang Cảnh identify institutional barriers as major growth bottlenecks and propose legal reforms, improved coordination mechanisms, and enhanced implementation capacity. Research by Hoàng Ngọc Phong and Trần Thị Hồng Minh on regional institutions underscores the importance of regional linkages, regional finance, and multi-level coordination in optimizing resource allocation.

1.2. Overview of studies on circular economy development

Seminal works by McDonough & Braungart, Stahel, and the Ellen MacArthur Foundation establish the theoretical foundations of the CE, emphasizing product and process redesign toward “zero waste,” extended life cycles, and ecosystem regeneration. The OECD identifies CE as a key instrument for decoupling economic growth from resource extraction and emissions, with the potential to reduce CO₂ emissions by 25-30% by 2060 through material life-cycle redesign. Geng et al., Ghisellini et al., Lacy et al., and the World Economic Forum clarify CE implementation across micro, meso, and macro levels-particularly in heavy industry-and regard CE as a pillar for achieving Net Zero targets. Globally, CE is conceptualized as a multi-level system associated with performance indicators, sectoral strategies, and new business models such as servitization, sharing, remanufacturing, and advanced recycling.

In Vietnam, studies by UNDP, Circular Innovation Lab & ISPONRE, and the Ho Chi Minh National Academy of Politics emphasize the pivotal role of institutions, policies, and central coordination mechanisms in CE development. Identified barriers include fragmented policies, lack of coordination bodies, limited awareness, weak recycling infrastructure and technology, and insufficient financial incentives. Individual scholars such as Bùi Quang Tuấn, Trần Văn Miên, and Nguyễn Anh Tuấn note that CE in Vietnam is transitioning from initiation to implementation, with pioneering enterprises and localities emerging.

1.3. Overview of studies on city-level institutions promoting circular economy development

International research on city-level CE institutions focuses on circular urban models and the role of municipal governments. Scholars such as Prendeville and the Ellen MacArthur Foundation analyze transformation processes in leading cities. Studies by the World Economic Forum, PwC, OECD, and UN-Habitat further define the role of local authorities as “leaders-coordinators-enablers,” proposing action frameworks and identifying challenges related to finance, capacity, coordination, and data. Overall, international literature confirms that urban CE transition is a complex institutional process requiring tailored strategies, flexible legal frameworks, and multi-level, multi-actor coordination mechanisms.

Domestic studies primarily approach CE in selected localities from perspectives of roadmaps, policy frameworks, and pilot models. Scholars emphasize the importance of legal frameworks, priority sector selection, and the design of support instruments. Research by Nguyễn Hồng Quân broadens the urban perspective, highlighting challenges related to evaluation criteria, decentralization, resource allocation, and governance capacity in implementing CE in Vietnamese cities. However, to date, no in-depth and systematic study has been conducted on provincial or city-level institutions promoting CE development.

1.4. Research gaps and key issues addressed by the dissertation

The literature review reveals three major gaps. First, no study has developed a comprehensive theoretical framework for city-level institutions that promote CE from a political economy perspective. Concepts, structures, and functions of CE institutions remain insufficiently systematized, and no analytical model exists to measure institutional completeness at the urban level. Second, intersectoral coordination mechanisms, urban decentralization, and institutional

enforcement have not been thoroughly examined; institutional conflicts between central and local authorities, as well as among sectoral agencies, remain underexplored. Third, no in-depth study has addressed CE-promoting institutions in HCMC, the country's largest metropolis, characterized by economic scale, diverse actors, and complex governance structures.

To address these gaps, the dissertation clarifies four key theoretical issues: (1) institutions promoting CE development from a political economy perspective; (2) the structure and content of city-level CE institutions; (3) criteria for evaluating institutional completeness; and (4) mechanisms through which influencing factors affect CE institutions.

Empirically, the dissertation provides a comprehensive assessment of CE institutions in Ho Chi Minh City during 2015-2024; analyzes coordination and decentralization mechanisms in institutional implementation; and proposes a coherent and feasible system of solutions to improve CE institutions toward 2030, with a vision to 2045, aligned with sustainable development goals and Net Zero commitments.

1.5. Analytical framework of the dissertation

Chapter 2

THEORETICAL FOUNDATIONS OF INSTITUTIONS PROMOTING CIRCULAR ECONOMY DEVELOPMENT AT THE CITY LEVEL AND PRACTICAL EXPERIENCES

2.1. Theoretical foundations

2.1.1. Basic concepts

- *Circular economy*: An economic model organized and operated through the redesign of production and consumption systems toward closed-loop processes, in which material, energy, and information flows are continuously reused, recycled, and regenerated to ensure a balance of interests among the State, enterprises, and society in pursuit of sustainable development.

- *Institution*: A system of formally established rules, norms, and organizational mechanisms created by humans to regulate and guide the behavior of actors, ensuring order and promoting socio-economic development consistent with state objectives at each stage of development.

- *Economic institution*: A system of rules, standards, mechanisms, and organizations established by the State and society to regulate economic relations among actors in the processes of production, distribution, exchange, and

consumption of material goods, thereby guiding behavior, allocating resources, and promoting sustainable growth.

- *Development institution*: A system of rules, policies, mechanisms, and organizational structures established and operated to create favorable conditions for innovation, efficient resource use, and sustainable development.

- *Institutions promoting CE development*: A system of legal documents, policies, mechanisms, and organizational structures established and implemented by the State, local authorities, and socio-economic actors to orient, regulate, and encourage the transition from a linear economic model to a circular economy.

2.1.2. Components of the circular economy

First, circular design and production.

Second, sustainable distribution and consumption.

Third, waste management and resource recycling.

Fourth, infrastructure and technologies supporting CE.

Fifth, coordination mechanisms and CE governance.

2.2. Content, evaluation criteria, and factors influencing city-level institutions promoting circular economy development

2.2.1. Content of city-level CE-promoting institutions

2.2.1.1. Legal, policy, and economic instruments (Legal Framework)

The institutional framework for CE may be approached through three layers:

(1) the strategic orientation layer, establishing a vision for sustainable development and the logic of transition toward a regenerative model;

(2) the regulatory layer, specifying rights, obligations, and technical standards to govern actors' behavior; and

(3) the regulatory instrument layer, translating legal provisions into operational mechanisms through taxes, incentives, standards, and green financial tools.

2.2.1.2. Institutions governing CE actors

Institutions concerning CE actors emphasize the roles and interactions among stakeholders within the socio-economic system. Institutional effectiveness depends on actors' behavior in practice. Within this structure, the government provides direction and coordination; enterprises innovate and implement; and communities and social organizations co-create and monitor. Their interaction forms an "institutional ecosystem" that facilitates effective and sustainable CE transition.

2.2.1.3. Institutions on organizational structure and implementation resources

Institutional capacity derives from three resource groups: coordination and organizational capacity; financial and human resources; and data systems supporting decision-making. When adequately ensured, these resources enable governance structures to implement CE policies effectively and promote innovation in production-consumption systems.

2.2.2. Criteria for evaluating city-level CE institutions

2.2.2.1. Formation and scaling-up of CE models

This criterion includes:

- (1) the number of CE models implemented;
- (2) their diffusion and scalability;
- (3) their quality and operational effectiveness; and
- (4) the level of institutional support for model formation.

2.2.2.2. Improvement of legal frameworks, policies, and governance mechanisms

Key aspects include:

- (1) coherence and stability of the legal framework;
- (2) integration of CE into development strategies and planning;
- (3) intersectoral coordination and stakeholder participation;
- (4) incentive mechanisms and economic policy instruments.

2.2.2.3. Economic-social-environmental impacts of CE transition

Economic impacts: measured through resource productivity gains; cost savings in waste treatment; revenues and profits from recycling, repair, and remanufacturing sectors; number of enterprises adopting CE or obtaining “green” certification; and new jobs created in recycling, repair, design, and environmental technologies.

Social impacts: reflected in changes in awareness, behavior, and participation levels of citizens, enterprises, and social organizations in the transition process.

Environmental impacts: demonstrated by improved resource efficiency and reduced urban pollution.

2.2.3. Factors influencing city-level CE institutions

2.2.3.1. Direct factors: awareness and commitment of local authorities; infrastructure and technology; financial resources; participation of communities and enterprises.

2.2.3.2. Indirect factors: national legal and policy systems; international integration; technological progress and global innovation trends.

2.3. Domestic and international experiences in improving city-level CE institutions

2.3.1. International experiences

2.3.1.1. Seoul, Republic of Korea

Seoul established an independent, cross-sectoral CE institutional framework, highlighted by the 2017 Resource Circulation Act. The city implemented five-year action plans, volume-based waste fees, recycling centers in each district, and integration of CE into urban planning and waste management. A Coordination Committee links 25 districts, while decentralization enables local initiatives and community engagement. Financing is mobilized through the Urban Resource Fund, tax incentives, PPPs, and EPR schemes. Seoul also employs digital technologies-Eco-Mileage, big data, and waste mapping-to track material flows and optimize circular infrastructure.

2.3.1.2. Shenzhen, China

Shenzhen, a leading technology hub, positions CE as a core development orientation through an integrated institutional model embedded in urban planning, eco-industrial parks, the “zero-waste city” program, and EPR policies for electronics. The Development and Reform Commission coordinates cross-sectoral implementation, while districts and industrial parks enjoy strong decentralization in material flow management. Digital technologies such as big data, AI, and product life-cycle data platforms optimize resource use and waste management. Shenzhen has thus developed a modern CE institutional system supporting innovation and green supply chains.

2.3.2. Domestic experiences

2.3.2.1. Da Nang, Vietnam

Da Nang integrates CE into its development strategy through the 2022-2045 CE Roadmap and related policies on environment, energy, sustainable consumption, and waste classification. A CE Coordination Board and CE Office (DCEH) facilitate multi-stakeholder collaboration under a “State-Private-Community” model. The city attracts international investment in high-tech industries and cooperates with UNDP, GIZ, UNIDO, the World Bank, and technology enterprises to develop material flow data and recycling models. These efforts progressively strengthen institutional, technological, and resource foundations toward becoming a circular city by 2045.

2.3.2.2. Hai Phong, Vietnam

Hai Phong, a strategic city in the Red River Delta, aims to become a green industrial and service hub. CE is considered a development pillar, as demonstrated by eco-industrial parks such as DEEP C and Nam Cau Kien, which

feature industrial symbiosis and resource reuse. The city has refined its legal framework, integrated CE criteria into planning and investment processes, and established an intersectoral Steering Committee. Incentives in land, taxation, green credit, and technical support promote enterprise transition. International cooperation with UNIDO, GIZ, JICA, and SECO strengthens technological and governance capacity.

2.3.3. Implications for Ho Chi Minh City

Domestic and international experiences indicate that Ho Chi Minh City should develop an integrated CE institutional framework embedded in planning and supported by economic instruments such as volume-based waste fees, tax incentives, and green public procurement. Successful models highlight multi-actor governance, with government leadership, enterprise implementation, and community participation. Clear role allocation and effective intersectoral coordination enable efficient CE implementation. Strong organizational structures, dedicated focal agencies, and investment in data, technology, and infrastructure are essential for substantive CE transition. These lessons suggest that Ho Chi Minh City should pursue a proactive institutional model, effective decentralization, and diversified resource mobilization for CE development.

Chapter 3

CURRENT STATUS OF INSTITUTIONS

PROMOTING CIRCULAR ECONOMY DEVELOPMENT

IN HO CHI MINH CITY (2015 - 2024)

3.1. Socio-economic context shaping institutions for circular economy development in Ho Chi Minh City

3.1.1. Overview of Ho Chi Minh City

HCMC became the country's largest megacity as of July 1, 2025, covering more than 6,772 km² and hosting over 14 million residents. Located in a tropical monsoon climate zone, the City is favorable for solar energy development but is strongly affected by climate change, particularly flooding and rising temperatures. HCMC also has significant maritime advantages, including a 328-km coastline, strong and stable winds, and approximately 13,500 tons of solid waste generated per day, creating substantial potential for renewable energy and circular economy (CE) development.

Urban infrastructure continues to improve, with expanded transportation, electricity, and water systems, as well as public services. HCMC currently has 66

industrial zones and export processing zones, a large labor force, and a sizeable consumer market, serving as a national economic hub contributing about one-fifth of GDP and more than one-quarter of national budget revenues. However, the City also leads the country in greenhouse gas emissions, with 57.57 million tons of CO₂ in 2018, of which 93.6% originated from stationary energy and transport.

3.1.2. Economic development context and the impacts of COVID-19

HCMC's economy maintained stable growth for many years, though COVID-19 significantly slowed growth rates in 2016-2020 and 2021-2025 relative to earlier periods. From 2022 onward, the City's economy recovered markedly, with an average annual growth rate of 7.6-7.76%. After July 1, 2025, HCMC expanded into a megacity, forming a leading economic, logistics, and technology center in Southeast Asia. This expansion provides major advantages in market scale, resources, industrial infrastructure, and seaports, while also generating substantial pressures on transport infrastructure, waste management, the environment, and urban governance.

3.2. Institutions promoting circular economy development in Ho Chi Minh City (2015-2024)

3.2.1. Implementation status of CE-promoting institutions in Ho Chi Minh City (2015-2024)

3.2.1.1. Legal and policy frameworks related to the circular economy in Ho Chi Minh City

At the strategic orientation level, Vietnam's CE-promoting institutions have been firmly built upon the Party's orientations and resolutions on sustainable development, beginning with the principle of not trading environmental quality for economic growth. Over time, this pathway has expanded from waste recycling toward optimizing energy and resource use, providing an important political foundation for modern urban operational models. By the 13th and 14th National Party Congresses, the circular economy became an official national strategic orientation, serving as a core component of the new growth model linked to green transition and digital transformation. On this basis, HCMC pioneered the "localization" of these strategies through an urban master plan toward 2050, affirming its leading role in advancing green and low-emission development.

At the regulatory level, CE-related regulations have been established in a relatively coherent and comprehensive manner from the national to the local

levels. At the macro level, the 2020 Law on Environmental Protection and its guiding decrees created a multidimensional legal framework that directly stipulates incentive mechanisms and responsibilities for CE implementation. Aligning with this orientation, HCMC proactively operationalized CE through key policy documents such as Decision No. 4645/QĐ-UBND, which sets a roadmap for sustainable economic development to 2030. Notably, the City also issued specialized regulations to promote the transition toward eco-industrial parks, emphasizing industrial symbiosis and by-product reuse. Overall, this system reflects a balanced combination of compliance with national law and the creativity and flexibility of municipal governance.

At the regulatory instrument level, HCMC has applied financial policies, such as tax and credit incentives under Decree No. 08/2022/NĐ-CP-alongside technical standards, including the Power Development Plan VIII, thereby creating both incentives and pressures for enterprises to standardize production toward resource efficiency. In parallel, green growth and sustainable production plans have operationalized these objectives through waste separation at source, eco-labeling, and innovation support for the start-up community. Export processing zones and industrial parks have become key sites for piloting industrial symbiosis, in which firms share infrastructure and optimize the reuse of byproducts. Linking “green enterprise” criteria to investment incentives not only strengthens environmental protection but also generates new competitive advantages for the City’s economy in a modern development context.

Overall, the 2015-2024 period indicates that HCMC’s CE institutional architecture has been fully formed across three layers-strategic orientation, regulation, and policy instruments-demonstrating the City’s clear determination to lead the transition toward a circular economy model.

3.2.1.2. Institutions governing stakeholders in promoting circular economy development

** Ho Chi Minh City government*

The municipal government plays the central role in setting direction, issuing legal frameworks, and coordinating implementation. During 2021-2024, the City accelerated institutionalization, reflected in the rapid growth in the number of policy documents, marking a shift from a reactive approach to proactive policy creation. Key decisions such as No. 503/QĐ-UBND, No. 4645/QĐ-UBND, and No. 3797/QĐ-UBND show that the City not only set strategies but also translated them into targets, roadmaps, coordination

mechanisms, and enterprise support instruments, aligned with Net Zero commitments and the special mechanisms under Resolution No. 98/2023/QH15. HCMC also integrated CE into urban planning across waste, energy, and transport, while progressively developing eco-industrial parks, modern waste-treatment infrastructure, and green transport. Overall, the City government is shifting from a “waste management” model toward “resource regeneration,” laying a critical foundation for urban CE development.

** Enterprises*

HCMC has over 345,000 enterprises, with more than 4,000 newly established each month, providing a strong foundation for innovating green business models. However, CE integration into corporate strategies remains limited: only about one-third of firms assess CE-related opportunities and challenges, develop plans, or set circular targets. Regarding environmental compliance, firms report and certify at relatively high rates, but largely at minimum levels; strategic standards such as LCA, ISO 14064, and EPR are still rarely applied. Low levels of greenhouse gas inventories, energy audits, and CE-related patent registrations indicate limited capacity for life-cycle management. Investment in clean technology is also modest, with only 16.2% of enterprises investing, far below regional and international benchmarks. In general, enterprises in HCMC have moved from awareness to action but remain at an early stage and require a stronger impetus to meet the demands of the CE transition.

** Communities, social organizations, and universities/research institutes*

Communities and social organizations play a significant role in promoting CE through both large-scale and grassroots activities. Events such as the 2024 “Green Living Festival” attracted over 9,800 participants and collected 1,300 sets of clothing, 241 electronic devices, and 11,500 plastic bottles for recycling. At the community level, “Green Sunday” campaigns can collect up to 10 tons of waste, while exchange-for-recycling programs have recovered about 1.5 tons of recyclable waste. The City has nearly 300 “environmental self-management” models; Ward 14 (Go Vap District) alone handled 38 violations and collected VND 52 million in fines during 2021-2023. Beyond communities, more than 30 social organizations and NGOs, such as GreenHub, CHANGE, and Live & Learn, implement programs on plastic reduction, green communication, and enterprise circular transformation support. Universities and research institutes also play a core role, with more than 15 green research units and over 80 universities, including two institutions listed in international SDG rankings in

2024. In addition, HCMC has 155 vocational education institutions, many of which have integrated “green-circular” content into training, such as the “Green Logistics” program at Saigon College.

3.2.1.3. Organizational arrangements and intersectoral coordination mechanisms

HCMC has initially established intersectoral coordination mechanisms to implement CE. The City assigned specific responsibilities to departments and agencies through three key documents: Decision No. 503/QĐ-UBND (2022), Decision No. 4645/QĐ-UBND (2022), and Decision No. 3797/QĐ-UBND (2023), thereby creating a legal basis for binding implementation. Coordination is organized into three levels: the City People’s Committee provides overall direction; the Department of Finance (formerly the Department of Planning and Investment) serves as the coordinating body; and other departments act as implementing units according to their functional mandates. The implementation network includes more than 10 entities, ranging from departments and agencies to export processing zones, industrial parks, and ward/commune/special-zone systems. Assigned tasks include designing green financial instruments, developing circular agriculture, driving technological innovation, developing eco-industrial parks, and building CE data systems. This division of responsibilities reduces overlap and increases sectoral proactiveness. Overall, HCMC has developed a relatively complete coordination structure, creating a foundation for more coherent and effective CE policy implementation in the coming period.

3.2.2. Outcomes of implementing CE-promoting institutions in Ho Chi Minh City (2015-2024)

3.2.2.1. Implementation and scaling-up of circular economy models

HCMC has established high-tech agricultural zones in cultivation, livestock, and aquaculture, and maintains the country’s largest high-tech dairy herd. By 2025, the City had approximately 1,728 hectares of VietGAP-certified fruit and vegetable cultivation involving 1,354 organizations/individuals, accounting for more than 60% of the total cultivated area for fruits and vegetables.

In renewable energy, 14,210 rooftop solar systems have been installed with a total capacity of 358.38 MWp, exporting about 274 million kWh to the grid in 2024. The estimated rooftop solar potential is about 5,081 MWp, with production facilities accounting for over 31% and households accounting for over 62%.

Regarding waste-to-energy, the City has operated two waste incineration power plants with a combined capacity of about 80 MW and is implementing five new projects, projected to reach 340 MW by 2030. Hiep Phuoc Industrial Park, when piloting the eco-industrial park model, achieved approximately 76% of the criteria under the international framework. These figures indicate that HCMC has begun to lay an important foundation for implementing and expanding CE models in agriculture, industry, and waste management.

3.2.2.2. Improvement of the city-level legal framework, policies, and governance mechanisms

During 2020-2024, HCMC developed a relatively comprehensive CE policy axis through key documents such as Decision No. 503/QĐ-UBND, Decision No. 4589/QĐ-UBND, Decision No. 4645/QĐ-UBND, and Resolution No. 98/2023/QH15, while integrating CE into the HCMC Master Plan 2021-2030, vision 2050. Survey results indicate that alignment between the legal framework and national orientations and international commitments is largely rated “Good,” yet levels of specificity and feasibility are frequently rated “Average,” and monitoring and evaluation mechanisms are rated “Average” or “Below average.”

Intersectoral coordination is rated “fairly good” by 49.3% of respondents, but only 16.4% rate it “highly effective,” while 25.4% consider it “ineffective” and 6% describe it as “fragmented,” indicating limited substantive linkage among agencies.

Regarding economic instruments, enterprise science and technology development funds accumulated more than VND 6,020 billion but disbursed only about VND 2,108 billion, with only 6% of enterprises accessing them. The Environmental Protection Fund, with charter capital of about VND 59.4 billion, has supported 94 projects worth over VND 100 billion, with an enterprise access rate of only 2.2%. Outstanding green credit reached about VND 637,000 billion (equivalent to 4.5% of total outstanding loans), yet CE enterprises in HCMC still face access difficulties due to the lack of a unified definition of “green projects,” complex appraisal procedures, and mismatches between long-term capital demand and banks’ short-term funding structures. Decision No. 42/2024/QĐ-UBND on interest-rate subsidies via HFIC (supporting 50-100% of interest, up to VND 200 billion per project for seven years) is considered a strong financial instrument to encourage green and CE transitions at the enterprise level. Overall, HCMC has built a relatively coherent legal framework and begun forming coordination mechanisms and economic instruments for CE, but there remains

substantial room to improve specificity, intersectoral effectiveness, and policy diffusion.

3.2.2.3. Economic, social, and environmental impacts of the transition to a circular economy model

Implementation of energy efficiency programs helps HCMC save about 2.17% of electricity annually, equivalent to 560 million kWh. Approximately 31% of municipal solid waste (about 4,000 tons/day) has been recycled, composted, or used for waste-to-energy, thereby reducing landfill pressure and the costs of investing in new landfill sites. Two 40 MW waste-to-energy plants, together with recycling models such as Vietstar and Tam Sinh Nghia, are creating new economic value from waste and reducing emissions.

The scale of green employment in HCMC is estimated at about 205,555 workers by 2025, concentrated in renewable energy, green construction, clean industry, and green finance and consulting services. Campaigns such as the “Green Living Festival” and “Green Sunday” enable 98.2% of households to access environmental information, and about 89.9% of students, civil servants, and public employees to change their behavior toward environmental friendliness. Air quality improved, with PM10 meeting standards at 33/36 sites and PM2.5 meeting standards at 36/36 sites during 2021-2024; the commissioning of Metro Line 1 also helped reduce transport-related emissions. Ecologically, HCMC has restored more than 7,000 hectares of Can Gio mangrove forests and planted over 620,000 urban trees, enhancing carbon sequestration and improving living spaces.

3.3. Overall assessment of CE-promoting institutions in Ho Chi Minh City

3.3.1. Achievements

First, HCMC has developed a relatively comprehensive set of CE-oriented policy documents, with a rapid increase in the number of documents from 2021-2024, creating an institutional foundation that is coherent across departments and aligned with central orientations.

Second, CE has been integrated into urban planning and development strategies, as reflected in the HCMC Master Plan 2021-2030 and vision 2050, with orientations toward a green-smart city and circular industrial clusters.

Third, the City has implemented various CE models across agriculture, industry, and waste management, notably the VAC-VRAC models, cleaner production in SHTP and Hiep Phuoc Industrial Park, and waste-to-energy facilities.

Fourth, intersectoral coordination and enterprise support have been strengthened through polycentric governance and economic instruments, including green credit, interest-rate subsidies, environmental funds, and science and technology funds.

3.3.2. Limitations and causes

3.3.2.1. Limitations

First, incentives for CE remain limited and largely confined to orientations, lacking clear operational mechanisms. Key instruments—such as circular taxes, green public procurement, and carbon markets—have not yet been established; moreover, the absence of evaluation criteria makes preferential financial policies difficult to implement effectively.

Second, policy operationalization remains limited, reflected in the absence of technical standards such as eco-design, eco-labeling, and material recycling standards, which create obstacles for enterprises and reduce implementation coherence.

Third, awareness and implementation capacity are uneven. Many officials and enterprises do not fully understand CE, lack the skills needed for circular project management, and are unfamiliar with new instruments such as green credit and carbon credits.

Fourth, intersectoral coordination remains formalistic; multi-stakeholder dialogue and data sharing are insufficiently frequent, reducing coordination effectiveness and enterprise support.

Fifth, foundational data systems remain inadequate, particularly MFA, LCA, and waste-flow data in export processing zones and industrial parks, constraining assessment, forecasting, and CE policy design.

3.3.2.2. Causes

First, CE awareness remains uneven and insufficiently deep. Although most enterprises have “heard of CE,” the proportion that incorporate CE into strategies, plans, or concrete targets remains very low, indicating superficial awareness. In the public sector, officials lack mastery of tools such as green credit and extended producer responsibility, leading to implementation difficulties. In communities, green living movements are widespread, but behaviors are not sustained due to limited information, weak incentives, and inadequate recycling services.

Second, intersectoral coordination remains largely formalistic and has not developed into a substantive operational cycle. Despite clear task assignments through key decisions, mechanisms for dialogue, data sharing, and multi-actor

coordination are unstable, leading to fragmented policies and isolated CE models. Pilot implementation has not followed a complete cycle from experimentation to scaling and institutionalization. Insufficient foundational, waste-flow, and recycling data also undermines policy evaluation and planning.

Third, financial, technological, and human resources remain constrained. CE-support funds are small or difficult to access, resulting in very low enterprise access to capital. Recycling, wastewater treatment, and material recovery technologies are limited, reducing the capacity to shift toward cleaner technologies. In addition, both officials and enterprises lack interdisciplinary experts and specialized CE training, creating difficulties in designing and managing circular projects.

Chapter 4

ORIENTATIONS AND SOLUTIONS FOR IMPROVING INSTITUTIONS PROMOTING CIRCULAR ECONOMY DEVELOPMENT IN HO CHI MINH CITY TOWARD 2030, WITH A VISION TO 2045

4.1. Context forecast and orientations for institutional improvement

4.1.1. Forecast of global and domestic contexts affecting CE-promoting institutions

Global context: First, the CE is becoming an inevitable trend in the 2020-2030 decade due to climate pressure, resource depletion, and waste pollution. Second, CE helps reduce resource consumption, significantly cut emissions, and contribute to the Sustainable Development Goals. Third, the greening of global supply chains compels large cities to improve CE institutions. Fourth, digital technologies and big data accelerate the “circular city” model, requiring HCMC to develop data governance institutions, digital transformation, and support for circular business models.

Domestic context: First, the Net Zero commitment at COP26 requires Vietnam and HCMC to transform the growth model, implement extended producer responsibility (EPR), waste segregation, carbon accounting, and enterprise support to meet international green standards. Second, the reorganization of administrative units creates new governance space, enabling the streamlining of the apparatus, the harmonization of environmental standards, and the development of large-scale CE models. Third, expanded governance space enhances institutional effectiveness, accountability, and the capacity to implement CE policies in a coherent manner aligned with HCMC’s sustainable development objectives.

4.1.2. Orientations for improving CE-promoting institutions

First, improve the legal and policy framework in a coherent and transparent manner, including the formulation of a City-level CE Action Plan with priority sectors, measurable indicators, and clear responsibilities; the issuance of technical regulations on recycling and industrial symbiosis; and the implementation of financial and non-financial incentives such as circular taxes and fees, green credit, green public procurement, carbon markets, and infrastructure support for CE-oriented enterprises.

Second, strengthen governance capacity and diversify CE models by establishing a sufficiently empowered coordinating body; providing training to officials in systems thinking and CE implementation skills; developing high-quality human resources; and developing a City-level CE index system for data-based monitoring.

Third, enhance data, research, and selective cooperation by building a unified CE database system, promoting R&D tailored to urban characteristics, proactively localizing international experience, and expanding cooperation to attract technology, knowledge, and green finance. This is a key condition for HCMC to improve the effectiveness of CE governance and meet sustainable development requirements in the new period.

4.2. Solutions for improving institutions promoting circular economy development in Ho Chi Minh City

4.2.1. Measures to enhance awareness among authorities, enterprises, citizens, and communities

This set of measures focuses on the following priorities:

First, develop a citywide CE communication and education strategy, with long-term, multi-channel campaigns aimed at cultivating a “circular culture” in the community. HCMC should adopt a 2025-2030 master communication plan led by the Department of Agriculture and Environment in coordination with HTV, VOH, and the Department of Science and Technology. In addition to strengthening CE content on HTV, VOH, ward/commune media channels, and familiar programs, the City should leverage KOLs to disseminate messages and translate CE from an abstract concept into concrete, accessible daily practices.

Second, strengthen awareness and capacity for officials at all levels through training, refresher courses, internal communication, and international cooperation, linking CE knowledge to civil service performance evaluation. HCMC should enhance officials’ implementation capacity through periodic training, standardized materials, and updated international experience; engage

domestic and international experts to introduce policy trends, standards, and technical tools; promote internal “Green Office” initiatives; and integrate CE into performance assessment to strengthen accountability. Policy advisers should master Party and State orientations to ensure consistency in CE mechanisms and programs. The City should also expand international cooperation and participation in circular city networks to access governance models, LCA, green finance, and circular supply-chain solutions.

Third, design specialized training programs for enterprises, especially SMEs, to clarify benefits, opportunities, and tools for circular business models and for fulfilling extended producer responsibility. HCMC may coordinate with VCCI and the management authorities of export processing and industrial zones to organize sector-based workshops and training sessions, sharing experiences from leading firms such as Vinamilk, Unilever, and Nestlé. Such sectoral training helps enterprises identify practical circular opportunities and strengthens awareness of their central role in CE and EPR compliance.

Fourth, integrate CE content into the education system from primary/secondary levels to higher education, combined with extracurricular activities and modules on sustainable production and consumption. Education is the most sustainable channel for shaping circular mindsets and behaviors; thus, CE materials should be developed and integrated into school subjects, complemented by extracurricular activities to form early habits. At the university level, curricula on CE, sustainable production, and eco-innovation should be developed to equip students with advanced knowledge and skills. This is a long-term investment in human resources, forming a generation of circular-minded citizens and a pool of high-quality experts to support CE development.

Fifth, strengthen the role of citizens by scaling up green community models—“circular neighborhoods” and “zero-waste residential groups”—thereby turning residents into key actors and a monitoring force in CE implementation. Citizens are critical to CE through behavior change, waste separation at source, and monitoring enterprise environmental compliance. The City should provide technical and financial support to community models and cooperate with social organizations to expand education, communication, and behavior-change initiatives. Competitive movements such as “Circular Neighborhood” or “Green Ward of HCMC” can promote self-governance and build green urban networks, supporting CE as a sustainable lifestyle.

Sixth, apply digital platforms (portals, mobile applications, and online interactive programs) to communicate, provide behavioral guidance, and connect

with stakeholders within the CE ecosystem, creating incentives and scaling circular living habits. By developing a CE portal and mobile application with centralized data-guidance on segregation, collection-point mapping, and green-consumption utilities, HCMC can implement interactive, gamified programs (community challenges, point systems, eco-rewards) to sustain circular habits. Digitalization also enables authorities to collect data, assess participation, and refine policy, thereby promoting CE as a widely diffused living culture.

4.2.2. Measures to improve the legal framework, policies, standards, and technical instruments

This group of measures serves as a foundational pillar for transforming the economic model.

First, develop and issue a strategic, long-term Master Program for CE development that clearly defines legal principles, governance models, and requirements for integrating CE into HCMC’s planning, annual plans, and public investment. Given its status as a special-class city with a large population and a complex economic structure, HCMC needs such a program to establish legal principles, a cross-sector governance model, and appropriate coordination mechanisms, while integrating CE into planning and public investment from the outset. The program should position CE as a cross-cutting principle in urban governance, requiring all departments to “screen” policies through circular objectives and to establish support instruments, such as inter-agency data, green finance, monitoring systems, and digital material-flow platforms.

Second, promulgate a People’s Council Resolution for 2026-2030 to institutionalize the Master Program into a binding legal mechanism, specifying objectives, quantitative targets, responsibility assignment, incentive mechanisms, and monitoring and evaluation systems. This Resolution functions as a bridge from vision to action by concretizing targets and indicators, clarifying responsibilities of departments and localities, defining mandatory CE application areas, establishing financial and technical incentives, and requiring transparent monitoring and evaluation. It constitutes a key institutional reform step, providing a robust legal foundation for urban economic transition, strengthening intersectoral governance capacity, and meeting international commitments on sustainable development and Net Zero 2050.

Third, develop a City-level set of circular standards and technical regulations for each sector/field (material recycling, eco-design, eco-labeling, industrial symbiosis standards, etc.) as the technical basis for CE implementation and for the formation of secondary raw material markets. HCMC should issue

binding sectoral standards to address the lack of technical standards and limited policy operationalization, orient CE from the design stage, and create a stable secondary materials market. These standards should cover material recycling, waste management, eco-design, City-level eco-labels, circular standards for export processing and industrial zones, industrial symbiosis, and detailed recycling standards by waste stream (e.g., plastics, metals, construction waste). Quantifying these standards and indicators would support the formation of secondary material markets and provide a transparent legal basis for green credit, tax incentives, and public investment appraisal.

Fourth, issue a City-level set of classification criteria for CE projects, applied consistently to green finance and public investment, including environmental criteria, circularity level, technology, and socio-economic efficiency, thereby directing capital toward genuinely circular projects. This shared tool for banks, financial authorities, and public investment should include four groups of criteria: (1) environmental criteria (CO₂ reduction of 10-30%, reduced resource consumption, and recycling/reuse rates); (2) circularity criteria (internal recycling levels, capacity to share resources with other firms, and secondary material use rates); (3) technology criteria (clean technology adoption, energy efficiency, and innovation levels); and (4) socio-economic criteria (green jobs, community benefits, and alignment with the City's CE strategy).

Fifth, improve economic instruments to promote the development of the circular economy at the city level. HCMC should shift from general incentive mechanisms to conditional, market-based economic instruments that shape enterprise behavior. Specifically, this includes implementing tax and credit incentives, establishing mandatory green public procurement requirements, and piloting carbon-credit trading mechanisms within industrial parks.

4.2.3. Measures to improve the state management apparatus and intersectoral coordination mechanisms

First, establish a City-level CE coordination institution (a Steering Committee, or integration into the Steering Committee for Green Growth/Sustainable Development) chaired by HCMC People's Committee leadership, involving departments and agencies, ward/commune/special-zone authorities, management boards of export processing and industrial zones, the High-Tech Park, universities, research institutes, and enterprises. Within this structure, the Department of Agriculture and Environment, the Department of Industry and Trade, the Department of Science and Technology, and the Department of Education and Training should serve as core implementing actors

in enforcement, environmental monitoring, eco-industrial park development, technological innovation, education, and CE communication.

Second, establish dedicated CE units or task forces within relevant departments and agencies, and set up a CE Steering Committee Office (located at the City People's Committee or an appropriate department) as the technical focal point for intersectoral coordination, unified CE database management, and liaison with partners and international organizations.

Third, strengthen training and capacity-building for civil servants at all levels on CE, including tools such as LCA, EPR, eco-design, circular value-chain governance, and CE integration into planning and public investment, thereby shifting from linear management thinking to intersectoral governance for a sustainable CE transition.

4.2.4. Measures to promote infrastructure and technology for the circular economy

This group focuses on institutional improvements to shift from waste management to resource governance and to build coherent CE infrastructure and technology foundations. *First*, institutionalize recycling infrastructure planning as a mandatory component of urban development; establish regional high-tech recycling clusters through targeted investment incentives (taxation, green credit), aiming to raise the recycling rate to 35-45% by 2030. *Second*, issue a list of city-specific waste streams, along with investment risk-sharing mechanisms, linking advanced recycling technologies to EPR and sustainable public procurement. *Third*, institutionalize networks of repair and reuse centers at the ward/commune level to optimize product lifecycles, prioritizing reuse, recycling, and treatment. *Fourth*, develop a roadmap for the transition to an eco-industrial park, with industrial symbiosis and digitalized management as the core mechanisms for coordinating material and energy flows.

These measures would enable HCMC to develop a modern infrastructure-technology ecosystem, enhance sustainable competitiveness, and strengthen international integration toward 2045.

4.2.5. Measures on sustainable finance and market-based incentive mechanisms

This group addresses bottlenecks related to the lack of robust financial instruments, small fund sizes, and limited access to green capital, with the aim of building a circular finance ecosystem that enables enterprise transition. *First*, establish the HCMC Circular Economy Investment Fund with a minimum capital of VND 1,000 billion to provide concessional loans, credit guarantees, and co-

investment, raising the share of enterprises accessing capital to 30-40% by 2030. Second, expand green public procurement, requiring 30-50% of procurement value to include recycled products or products meeting green standards, thereby creating stable demand for circular enterprises. Third, pilot a circular tax under Resolution No. 98, including corporate income tax and land tax incentives for enterprises with high recycling rates, emissions reductions, or participation in industrial symbiosis. Finally, develop a City-level carbon market, establish a carbon trading platform, and support enterprises in carbon inventories and credit trading, thereby creating long-term financial incentives for green transition and emissions reduction.

KẾT LUẬN

The circular economy is increasingly emerging as a dominant approach to simultaneously address growth requirements, resource efficiency, and environmental protection. In Vietnam, CE has been embedded in national resolutions and strategies; HCMC, the country's largest economic center, plays a pioneering role in institutionalizing and implementing this model. From an institutional perspective, the dissertation clarifies the decisive role of institutions in creating an enabling environment and regulating stakeholders' behavior in CE development.

The research confirms that: (1) the dissertation develops a conceptual framework and a criteria system for analyzing CE-promoting institutions that is both theoretically grounded and practically applicable at the city level; (2) the empirical assessment shows that HCMC has established an initial institutional foundation, yet limitations persist in coherence, coordination capacity, and enforcement effectiveness; many policies remain insufficiently operationalized and are not closely aligned with sectoral planning, while resources are fragmented and monitoring mechanisms remain inadequate; and (3) based on identified gaps and challenges, the dissertation proposes a coherent set of institutional solutions, including awareness raising; improvement of the legal framework and technical instruments; strengthening of organizational apparatus and coordination mechanisms; development of infrastructure and technology; and promotion of sustainable finance and market mechanisms. These solutions emphasize a systems approach, multi-actor linkages, and an effective and sustainable transition from a linear to a circular economy model.

LIST OF THE AUTHOR’S PUBLICATIONS RELATED TO THE DISSERTATION

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