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PROMOTION OF SMES ESTABLISHMENT AS PART OF THE INDUSTRIAL PARKS TRANSFORMATION

СПРИЯННЯ СТВОРЕННЮ МСП В РАМКАХ ТРАНСФОРМАЦІЇ ІНДУСТРІАЛЬНИХ ПАРКІВ

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This study examines the role of small and medium-sized enterprises in transforming industrial parks into eco-industrial parks and focuses on strategies for small and medium-sized enterprises' engagement. The relevance of the topic stems from the growing need to implement sustainable development principles, which are increasingly demanded by companies with international investments. These principles require industrial sites to balance economic and environmental indicators through the creation of eco-friendly industrial systems. SMEs are crucial to this process due to their flexibility, capacity for innovation, and efficient resource use. However, their integration into industrial parks faces significant barriers, such as limited financial resources, technical expertise, and infrastructure, making this issue critical for investigation. The study employs inductive analysis of scientific literature, case studies, and reports on eco-industrial parks development and small and medium-sized enterprises' support. Findings indicate that small and medium-sized enterprises significantly enhance the economic vitality of industrial parks by creating jobs, fostering innovation, and expanding production capacity. However, in countries like Ukraine, the involvement of small and medium-sized enterprises is hindered by financial, regulatory, and technical challenges. The article proposes a methodology for developing strategies to attract small and medium-sized enterprises to industrial parks, which will enhance their alignment with eco-industrial standards and promote sustainable regional development.

Keywords: small and medium-sized enterprises, industrial parks, economic vitality, strategy, international investments.

Мета цієї статті полягає в дослідженні ролі малих і середніх підприємств у розвитку індустріальних парків і трансформації їх в екоіндустріальні. Особливо приділено увагу розробці стратегії залучення малих та середніх підприємств до парків. Актуальність теми полягає у необхідності впровадження принципів сталого розвитку, що є сучасною вимогою компаній із міжнародними інвестиціями до промислових площадок, що мають поєднувати економічні та екологічні показники, зокрема через формування екологічно орієнтованих промислових систем. Малі та середні підприємства є важливими учасниками цього процесу завдяки їх гнучкості, здатності до інновацій і сприянню ефективному використанню ресурсів. Однак залучення їх до індустріальних парків стикається з численними бар'єрами, такими як брак фінансових ресурсів, технічних знань та відповідної інфраструктури, що робить цю проблему актуальною для дослідження. У роботі застосовано методи індукції при аналізі наукових статей, тематичних досліджень і звітів щодо розвитку екоіндустріальних парків та їх підтримки малих та середніх підприємств. Отримані результати свідчать, що малі та середні підприємства суттєво впливають на економічну життєздатність промислових площадок, створюючи робочі місця, сприяючи інноваціям і розширюючи виробничу базу. Однак в умовах таких країн, як Україна, залучення малих та середніх підприємств до індустріальних парків ускладнюється обмеженими фінансовими ресурсами, слабкою регуляторною базою та недостатньою технічною підтримкою. Водночас, успішне залучення малих та середніх підприємств до індустріальних парків може стати каталізатором економічного зростання та сталого розвитку країни. Практична цінність цієї статті полягає в тому, що вона пропонує методологію розробки стратегії для залучення малих та середніх підприємств до індустріальних парків, що підвищить рівень їх відповідності екоіндустріальним. Ця методологія включає визначення поточного стану парку, його можливостей, конкурентних переваг, а також розробку конкретних дій для залучення нових резидентів, що є одним із обов'язкових індикаторів екоіндустріальних парків. Запропонована стратегія сприятиме ефективній інтеграції малих та середніх підприємств у парки, а також сталому регіональному розвитку, що підвищить привабливість індустріальних парків для потенційних інвесторів.

Ключові слова: малі та середні підприємства, індустріальні парки, економічна життєздатність, стратегія, міжнародні інвестиції.



Eco-industrial parks (EIPs) have emerged as a solution to the rising environmental and economic challenges. They are designed to optimize resource usage, reduce waste, and enhance sustainability through collaborative approaches between industries [1]. Small and Medium Enterprises (SMEs) play a crucial role in contributing to the development of EIPs due to their innovative capabilities and flexibility. Promoting the establishment of SMEs within these parks could lead to improved environmental management, innovation, and socio-economic growth. However, the integration of SMEs into eco-industrial parks presents challenges that require a comprehensive understanding of the underlying factors [2].

Problem Statement. Despite the recognized importance of SMEs in promoting sustainable industrial development, their integration into eco-industrial parks faces multiple barriers. These include the lack of financial resources, limited access to infrastructure, inadequate policy frameworks, and insufficient knowledge regarding eco-industrial synergies. As a result, the potential of SMEs to contribute to sustainable development within EIPs remains underutilized. The promotion of SME establishment in EIPs needs to address these barriers while ensuring that their inclusion aligns with broader environmental and economic goals. This assessment aims to analyse the factors influencing SME integration in EIPs and propose strategies to enhance their participation.

Methods of Analysis. The study used a mixed-method approach to assess the situation of SMEs support in EIPs. A combination of qualitative and quantitative research techniques was used to gather data from scientific articles, case studies, and reports on eco-industrial parks and SMEs development. Qualitative content analysis was applied to review the literature, focusing on identifying key themes, challenges, and opportunities in the promotion of SMEs within EIPs. Quantitative analysis was used to assess statistical data from case studies that measured the impact of SMEs on EIPs' economic and environmental performance.

Literature Review. Authors of the [3] emphasizes the role of SMEs in advancing sustainability goals, especially within eco-industrial parks. For instance, it was identified that SMEs contribute to innovation in resource efficiency, energy management, and waste reduction due to their flexibility and adaptability. However, they also emphasize that SMEs often struggle to access the financial and technical

resources required to participate in eco-industrial initiatives effectively.

Authors of [2] stressed that SMEs are crucial to the success of eco-industrial parks due to their potential to drive innovation and improve environmental performance. However, relocating SMEs to these parks is challenging. In China, interfirm alliances have emerged as an effective way to support local governments in promoting SME relocation. These alliances address key factors such as policy, market, managerial, financial, and technical elements, which significantly influence SMEs' decisions to move. Financial considerations are especially important for manufacturing SMEs, while policy and managerial aspects play a critical role in encouraging smaller enterprises. Family-owned SMEs are more sensitive to market factors. By facilitating SME relocation, interfirm alliances help enhance the environmental and economic performance of EIPs, making SMEs a key component of these sustainable industrial ecosystems.

Accordingly to [4], SMEs are essential to the success of EIPs, as they contribute to energy efficiency, resource sharing, and the reduction of environmental impacts. However, SMEs often struggle to invest in renewable energy sources and energy efficiency solutions due to technical and economic constraints. They lack internal expertise to manage complex energy projects, which involve technical, environmental, and social considerations. This reluctance can hinder their participation in low-carbon initiatives. EIPs offer a collaborative environment where SMEs can overcome these barriers through inter-firm cooperation. By sharing resources such as energy and materials, and benefiting from district-level energy planning, SMEs can collectively reduce their reliance on fossil fuels and improve energy efficiency. The shared geographical and administrative conditions within EIPs create opportunities for SMEs to engage in sustainable energy projects, such as integrating renewable energy systems like solar, biomass, and wind.

Authors of the [5] identified that SMEs play a crucial role in the transformation of traditional industrial parks into EIPs. EIPs, which integrate industrial ecology and industrial symbiosis principles, focus on creating environmentally sustainable industrial systems. Many EIP transformation projects are initiated in ageing industrial parks, and the involvement of diverse public and private stakeholders is essential to this process. SMEs are key stakeholders in these transformations, contributing to resource

efficiency, innovation, and collaboration within EIPs. As part of the five-stage process identified in the study, SMEs participate in building industrial synergies, sharing resources, and reducing environmental impacts. Their involvement in the early stages of transformation is particularly important for establishing sustainable practices and fostering cooperation among businesses within the park.

Summary of unaddressed Areas. SMEs are vital to the success of EIPs due to their contributions to innovation, resource efficiency, energy management, and waste reduction. Their flexibility and adaptability allow them to drive sustainable practices within EIPs. However, SMEs often face significant challenges, such as limited financial and technical resources, which hinder their participation in eco-industrial initiatives. Therefore, while their involvement is crucial, effective attraction strategies are necessary to ensure their integration into EIPs. One effective approach is through interfirm alliances, as seen in China, where such collaborations help address key factors – policy, financial, market, managerial, and technical – that influence SME relocation to EIPs. Financial support is particularly crucial for manufacturing SMEs, while policy and managerial guidance encourage smaller firms to relocate. Additionally, family-owned SMEs respond more to market incentives, suggesting that strategies must be tailored to different business types. SMEs also struggle with the complexities of energy projects, including adopting renewable energy sources, due to limited internal expertise. EIPs can overcome these barriers by fostering inter-firm cooperation, promoting resource sharing, and providing district-level energy planning. Such collaborative environments enable SMEs to engage in sustainable energy initiatives and reduce reliance on fossil fuels. Lastly, in the transformation of traditional industrial parks into EIPs, SMEs are key stakeholders in establishing early-stage sustainable practices. Their involvement in resource sharing and collaboration helps reduce environmental impacts and promotes industrial synergies. To attract and sustain SME participation, EIPs must implement strategies that address financial, technical, and policy challenges, ensuring SMEs can thrive within these sustainable industrial ecosystems.

Results of the assessment. The assessment found that SMEs significantly contribute to the economic vitality of EIPs by generating employment opportunities, driving innovation, and

diversifying the industrial base. In environmental terms, SMEs help reduce the overall ecological footprint of EIPs through innovative waste management and resource-sharing practices. In developing economies, including Ukraine, the promotion of SME establishment within EIPs is hindered by a lack of financial resources, weak regulatory frameworks, and limited access to technical expertise. These economies also face challenges related to political instability, inadequate infrastructure, and limited market access, which further complicates the integration of SMEs into EIPs.

To attract SMEs to the parks, thereby enhancing diversity, building a robust production and service ecosystem, contributing to the local community, increasing rental rates, and creating synergies, the strategies should be developed. Under the study, the methodology for the promotion of SMEs establishment is proposed. Based on the general methodology [5], the specific methodology is proposed with the steps as follow:

1. Identify current status and strategy of the management company: assess the existing status and strategic approach of the management company.

2. Identify existing abilities, facilities, and advantages of the park: evaluate the current capabilities, infrastructure, and benefits offered by the park.

3. Identify future development plans and long-term development strategies: outline the future growth plans and long-term strategic goals for the park.

4. Analyze the status and mandate of the management company: review the management company's current status and its mandate to operate the park.

5. Set up realistic goals for SMEs attraction: establish achievable targets for attracting SMEs to the park.

6. Identify competitive advantages: determine the park's unique strengths to target the appropriate audience and craft effective messaging.

7. Identify short, medium, and long-term actions to reach the goals: develop a plan that includes immediate, intermediate, and long-term steps to achieve the set goals.

8. Identify tools and resources needed for these actions: specify the tools and resources required to implement the identified actions.

Each of these steps was tailored to the unique context of Ukrainian industrial parks, based on the open information from [6].

Table 1

Steps and logic of strategy development

Step	Part of the strategy
1. Identify current status and strategy of the industrial park	Management company – is a communal entity owning the premises and leasing them to residents. It also has it's own activities in the park. in the short to medium term the strategy is to attract more tenants and work on EIP features.
2. Identify existing abilities, facilities, and advantages of the park:	Management company has limited supply of space for SMEs and no influence on the rental level, as they act under the law for public companies. marketing abilities are also limited, so online activities and budget light initiatives are fore feasible.
3. Identify future development plans and long-term development strategies:	Maintain activities of existing residents, attract anker companies to the park.
4. Analyse the status and mandate of the management company:	Has ownership of premises and utilities. Has limited or no influence on rent and resident's profile.
5. Set up realistic goals for SMEs attraction:	Fill vacancies at achievable rent, create cooperation and synergies where possible.
6. Identify competitive advantages:	Well established industrial location, existing infrastructure, relatively safe region.
7. Identify short, medium, and long-term actions to reach the goals:	Short-term actions: 1. appoint a dedicated person or team for attracting additional residents; 2. inventory and creation of marketing materials; 3. distribution of marketing materials and communication with existing residents; 4. promote the park among business communities in the city and region; 5. create an information exchange system among residents to inform about medium and long-term initiatives; 6. develop additional services for SMEs within the park by 2026; 7. establish the image of an eco-industrial park; 8. participate in regional events and encourage resident participation.
8. Identify tools and resources needed for these actions:	Online and offline platforms. existing management of the park and respective professionals within the team. additional efforts to be taken by marketing and technical team. some activities can be outsourced. own operating budget available.

Source: developed by the author based on the information from [6]

General approach and example for a generic Ukrainian industrial park is presented in the table below.

This table allows for a systematic approach to strategy development for each industrial park and highlights the basis for developing a strategy to attract small and medium-sized businesses. Based on the analysis of the current state, existing capabilities, and future development plans, it is possible to identify the most effective actions to improve infrastructure and attract new residents. Additionally, understanding the competitive advantages of each park and setting realistic goals for attracting SMEs will help develop a clear action plan, contributing

to sustainable development and increasing the attractiveness of industrial parks for potential tenants and investors.

Each industrial park has unique challenges and strengths, but they share a common vision of enhancing their facilities and attracting more tenants. Implementing the identified short-term and long-term actions, supported by appropriate tools and resources, will help these parks achieve their goals and contribute to the region's economic growth and sustainability.

Conclusion. The promotion of SMEs as part of the eco-industrial park transformation is vital for fostering sustainable industrial development. SMEs contribute significantly to innovation,

resource efficiency, and job creation within industrial parks. However, the integration of SMEs into these parks is fraught with challenges, including financial constraints, inadequate policy frameworks, and limited access to technical expertise. To overcome these barriers, it is crucial to implement strategies that provide SMEs with access to finance, technical resources, and institutional support. Involving the management companies of industrial parks is crucial in this regard. Additionally, the methodology of a strategy to promote SMEs establishment is proposed for

management companies of Ukrainian industrial parks. For developing economies like Ukraine, the successful integration of SMEs into industrial parks could serve as a catalyst for economic growth and environmental sustainability. The results of this study underscore the importance of addressing the unique challenges faced by SMEs in different economic contexts. By fostering a supportive environment for SMEs, industrial parks can serve as a model for sustainable industrial transformation that benefits both the economy and the environment.

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