

The detection and estimation of contradictions between logistics and ecologization processes for the ecologicistic strategy implementation at the enterprise

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Abstract. The article considers the importance and aims of implementation of ecologicistic strategy at an enterprise. The author analyzes the factors of harmful effect of logistic processes at an enterprise on industrial and natural environment. The place of logistics and ecologization processes at an enterprise and their interconnection were efficiently estimated. The figure of Green Supply Chain Model (GrSCM) at an enterprise was constructed. The contradictions between logistics and ecologization processes were revealed, which allows esteeming the real perspectives and obstacles in ecologicistic strategy implementation.

Key words. Ecologicistics of an enterprise, ecologization processes, green supply chain model (GrSCM), ecologicistic strategy, sustainable development.

INTRODUCTION

Contemporary developments in the sphere of logistics are accompanied by a gradual industrial processes as well as social production ecologization. One of the main ecologizational aims should be oriented towards the reduction of eco-destructive effect that industrial and logistic processes cause as well as intensive goods and services consumption [1].

The enterprise's urgent issue is the lack of well-laid strategy, which would allow not only to ecologizate industrial and logistic processes but to receive the useful economical effect for an enterprise. However, it is not always when the efficient logistics correlate with real processes aimed on environmental protection in behalf of an enterprise. The contradictions occur which are to

be revealed and evaluated by managers of logistics on the middle and upper levels of management. It is only the timely evaluation and efficient contradictions study that can help to create the ecologicistic strategy which would ensure the high rates of profitability of an enterprise and remain ecologically optimal form the viewpoint of social values.

THE ANALYSIS OF RECENT RESEARCHES AND PUBLICFTIONS

The issue of economy ecologization to achieve sustainable development was studied by such Ukrainian scholars as [1, 18, 20]. [2] compared the enterprise's strategy with logistics strategy. [8] researched the development of the green business and the potentials of its application in Ukraine.

Such foreign scholars as [5, 6, 7] researched the influence of logistic processes of an enterprise on the environment. The scientific researches related to logistic supply chains functioning were elaborated by [3, 4, 9, 10] were engaged in reveling and estimation of the contradictions between logistics and ecology.

The development of ecologicistic strategy remains the criterion of quality and the competitive advantage of enterprises on a way to sustainable development. Therefore, the objective necessity of scientific researches in this field emerges.

Logistic strategies are frequently compared with competitive strategies and are treated as those directly

influencing the development of competitive strategies. The enterprises strategies and logistics strategies are actually correlated as a whole and a half. This displays the fact that in certain periods and in certain circumstances logistic strategy gains the characteristics of determinative corporate strategy. We can also observe tendencies to increase the importance of logistics in the integrated strategy of an enterprise [2, p. 205-213].

On the current stage of logistic strategies development the important issue is logistic processes optimization and ecologization. No doubt that ecologization is the main competitive advantage of logistic practice and must stay in consistency with it. The aim of ecologicistic strategy implementation is to get the integrated ecological and economic effect, displayed in such enterprise activity indicators:

- the increasing of production resources usage efficiency,

- the reduction of non-renewable or partially renewable natural resources usage and their economical and efficient usage [3, 4],
- the decreasing of amount of harmful emissions, refuses and waste accumulation,
- turning back the remains, packing, collection and restoring the recourses back into the distribution channel, materials recycling for further usage,
- the reduction of deficiency and resources losses while being stored and transported [5],
- the additional economic and ecological effect from competent encouraging system for energy and recourses saving technologies and innovative projects implementation (energetically efficient storages and buildings arrangement, alternative energy sources usage),
- the increasing of general and ecological quality of produced goods and provided services, which increase its competitiveness,

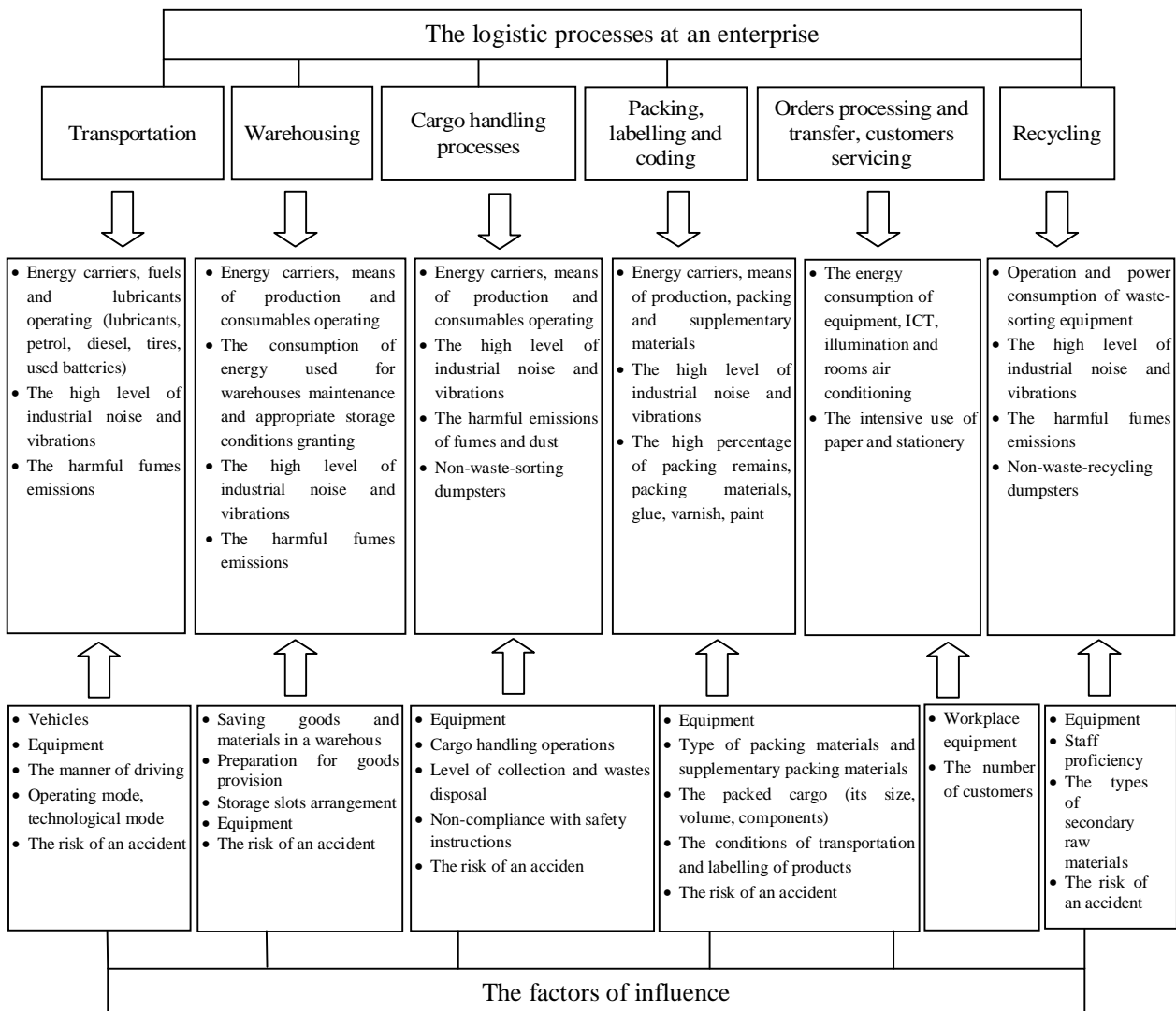


Fig. 1. The factors of logistic processes negative influence on productive and natural environment*

* Developed on the basis [6]

- the formation of corporative eco-culture among the staff, motivation principles improvement, that widens the economic actions space of corporative and social standarts in logistics and production sphere; the enterprise’s capitalization growth due to the advantages over competitors, its image improvement,
- the increasing positive influence of eco-oriented enterprises on the market capitalization of industry,
- the decreasing of investing risks due to the creditor’s, investor’s and state’s promotion and interest,
- the additional taxing effect due to the privileges for eco-projects,
- the increasing of partnership capital developing rates due to the enterprise clients’ loyalty,
- the decreasing of external transactions expenses due to the simplified work with authorities and the relief of the informational and administrative resources access.

The aforementioned results prove the urgency of ecologicistic strategy implementation in an enterprise. Therefore, the creation of the strategy in practice requires the diligent study of factors of logistics pro-

cesses on the environment. The analysis of the main factors of logistics processes of negative industrial and natural environmental effects are schematically shown on the pic. 1.

In the specialized literature it is stated that logistic managers are the most sufficient specialist to solve the problems of logistic processes influence on the industrial and natural environment, especially when it is about intensive traffic and resources protection due to the power, water and wood saving, alternative energy sources orientation, effective land plots usage and recycling [7].

However, it is not about the staff to solve these problems. In Noymann’s opinion in sake of doing the “green” business successfully in Ukraine it must be supported by the government’s encouragement and not conversely when the state is maintaining ecologically harmful industries (metallurgy and coal mining) [8]. The government regulation is a fair attempt of reimbursement for ecological burden including the environmental pollution fee and transport infrastructure usage fee. However, the local business frequently avoid the reimbursement fee that leads to the negative external effects for which the enterprise being not financially responsible [9, 10, 11].

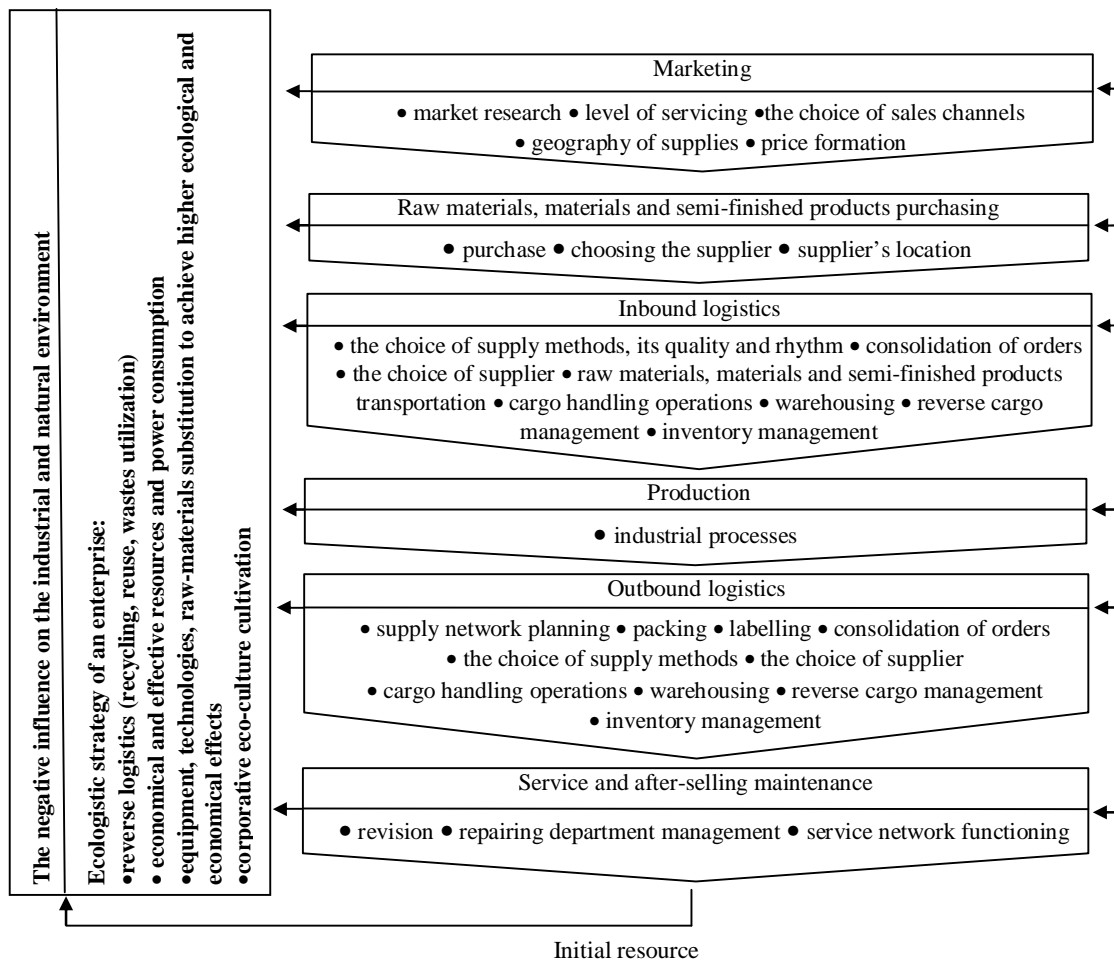


Fig. 2. Green supply chain model (GrSCM) at an enterprise*

* Elaborated on the basis [3]

OBJECTIVES

The aim of this article is to analyse importance and aims of implementation of ecologicistic strategy at an enterprise, particularly analyzes the factors of harmful effect of logistic processes at an enterprise on industrial and natural environment.

THE MAIN RESULTS OF THE RESEARCH

The negative influence on the industrial and natural environment frequently results from an amount of logistic decisions in supply chains. Apart from the economic interests of an enterprise in the system of supply chains model management while planning and making decisions is important to take some ecological issues into account. This is achievable by projecting the ecological aims, starting with pricing chains, along the whole process of production and on its different steps [5].

The picture 2 depicts the negative environmental influence during the logistic supply chain functioning, therefore it's important for each of the chain's phase match the appropriate enterprise's ecologicistic strategy aims.

At the first place the logistic systems and chains are to be considered from the viewpoint of costs cutting. However, the environmental saving measures spending

run higher, which contradicts the desire to retrench the general enterprise's expenses. Therefore it is important in logistic systems and chains management to take such decisions which would be based on the ecological expenses of an enterprise as a part of general logistic expenses.

But at first, it is important to detect and appraise the contradictions between logistic and ecologicistic component. The contradictions' review is presented in the table.

It is possible to outline a number of opened questions concerning the enterprise's logistic and ecologicistic processes troubleshooting as well as the interest of state institutions and enterprises in solving them. In conditions of overall globalization and stable developing concept this issue becomes increasingly topical. One of the ways is developing and implementation of the coherent ecologicistic strategy at an enterprise when the social criterion of commodity producer's worth is ecological cleanness of production and goods distribution and also the extension of economic area of eco-standards in action in the relation framework "supplier – producer – consumer" in conditions of deep control of their following from behalf of specialized institutions and public. Such an innovative approach to the strategic development of an enterprise on ecological principles broadens the scientific management of enterprise's value and processes of capitalization in economics [12].

Table 1. The logistic and ecologization processes contradictions at an enterprise*

Notions	Logistic application result	Contradictions
Costs	The attempts of an enterprise to retrench expenses, for instance by packing and waste recycling systems improvements. Extension of advantages for producers, logistic mediators, distributors.	The environmental saving expenses are regulated by external factors (political, social and economic aspects of society's development, governmental resolutions and institutional frameworks). They are usually beyond the enterprise's control.
Time/ flexibility	Integrated supply chains. Just in time technology (precise in time supplies) and DTD (the artificial language of pattern used to define the type of document) offer flexible and effective systems.	The production of wide range, distribution and structures of retail trading require more space, more energy and produce more emissions (CO ₂ , NO _x and others harmful substances).
Network / reliability	Increasing the general effectiveness of distributive system. Star-shaped system "Hub and spoke" – this logistic structure ensures optimal transport expenses, reliable and opportune cargo supply and passengers transportation.	Due to the high traffic concentration near the distribution centers and along the highways the local environmental pollution emerge, such as air pollution, noise and traffic overload, problems with a certain plot preparation for center location, which approaches the subject of rational land use. Cargo transportation regimes make for pollution level growth which contradicts the population's ecological security.
Warehousing	Decreasing in demand of private warehouses.	The flow of supplies of goods and materials on public roads (increasing of a number of containers in particular) rises annually, provokes the traffic jams, reduction of free space and overloading the pavement.
E-commerce	Conducting the commercial deals via the Internet, allow to increase the business potentials and branch the supply chains.	The increasing of resources and power consumption in the systems of physical goods distribution.
Recycling	The waste processing plants give the chance to recycle the production waste or rubbish. Diminution of the amount of waste, appearing of the new market sectors, costs reduction, enterprise's management system improvement.	The environmental pollution and ecology aggravation around the waste processing plants. Indignation and severe criticism from the locals.
Transport	<ol style="list-style-type: none"> 1. The readiness for goods supply to any point just in time (JIT) leads to the intensification of motor transport use. 2. The tendency to divide cargo to smaller consignments. 3. Proceeding from the theory of transportation expenses decreasing, the transport means's weight should diminish. 	<ol style="list-style-type: none"> 1. Although the railway transport is the ecologically cleanest, the tendency is observed that amounts of rail shipping decrease. 2. The problem of increasing factor of transport empty run arises. 3. However, the transport facilities' weight increases because of the demands of safe traffic. This leads to the transport system overloading.

* Developed by the author on the basis [9, 342–344]

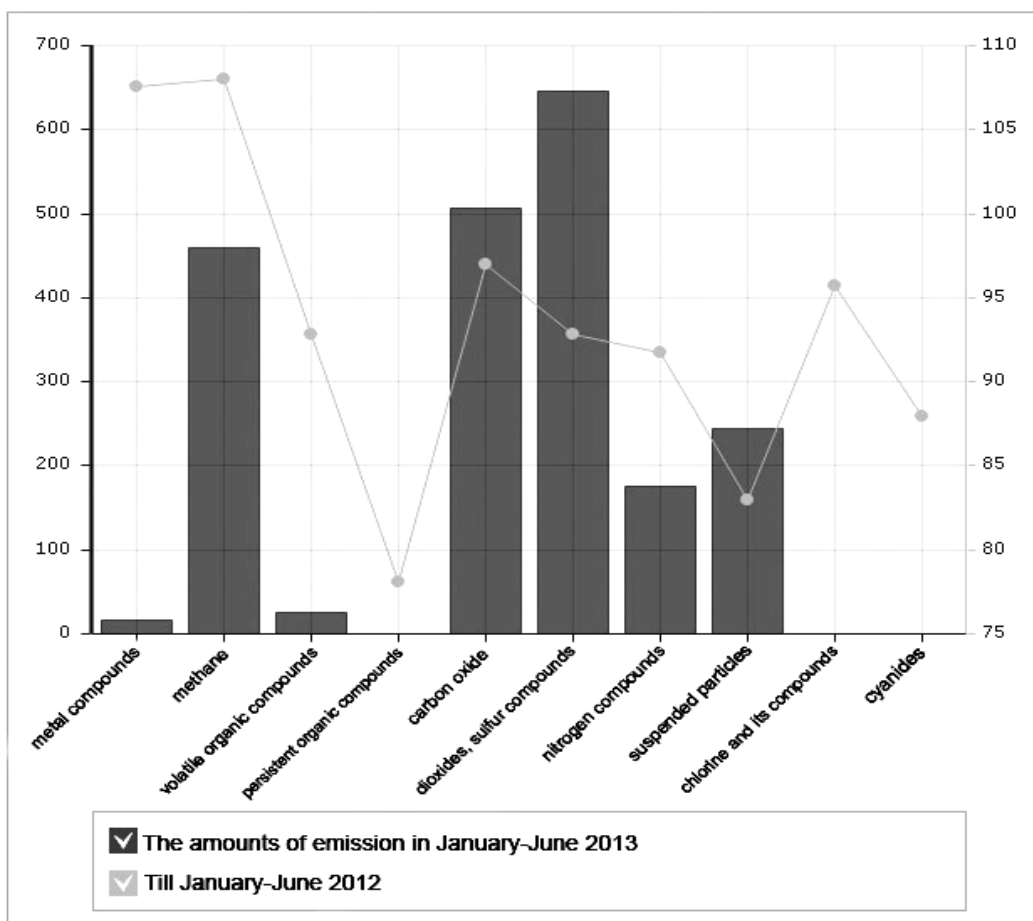


Fig. 3. The pollutant emissions into the atmosphere from stationary sources of pollution [23]

It is worth mentioning that ecologization processes do not have strict organizational limits of business, as when realized the sphere of clean technology implementation or other eco standards on packing or storage are indefinable from different viewpoints – law and politics, marketing, logistics, social, economical etc. The “contribution” of each manufacture depends on the choice of priorities of the state industrial policy. The contribution to waste pilling and recycling; the change of amounts and intensity of transport flows, including transit; speeding up the shift of industrial enterprises and motor cars owners to biofuel; restructuring of the technical service stations etc. The pollutant emissions into the atmosphere from stationary sources of pollution are shown at the pic. 3 [23].

The industrial regions emit about 90% of all the industrial wastes though real perspectives of stable development principles implementation and slowdown of environment exploitation will much depend on clearness of technological and logistical processes. Correspondingly, the question of urgent importance at this point is renovation of technical and technological basis of industrial enterprises in order to decrease the amounts of particularly dangerous pollutants emission, especially carbon dioxide.

Without the improvement of the state regulation mechanism of industrial manufacture in Ukraine in ecological direction it is impossible to overcome the contradictions of logistical and ecological processes at an enterprise. In order to implement the declared Law of

Ukraine on Nationwide Program of National Ecological Network Formation in 2000-2015 not only the intellectual, financial and investment resources are needed in each level of enterprise or industry management but also competent technologies of ecologicistic management. Therefore, a need of competence development of enterprise workers and managers in state authorities increase a need of critical reinterpretation of logistic functioning assessment criteria that naturally results from the principles of stable economical and social development.

CONCLUSIONS

In the specialized literature it is practically impossible to find the common definitions of ecologicistic strategy of an enterprise and green supply chains model management. It is not easy to combine logistics and ecology in practice of Ukrainian business which is in the conditions of deep political and socio-economic crisis

and driving out. However, considering the substantial shift from CIS markets towards the EU's ones in accordance with strategic aims of euro-integration, the logistics becomes an enterprise's key component and ecological – the innovative one. And yet, it is not always so when the vivid development of logistics coincide with decreasing in negative environmental effects, which demands the monitoring the ecological environment and ensuring free access to its results for any interested parties including investors and public.

The ecologicistic strategy expects development of the new price formation models due to the changes in correlation between external and internal enterprise's costs. The part of so-called conditionally-stable expenses would grow in product cost (in case of eco-cleaning facilities use and eco-standards implementation). The structure of marginal income would also change, determining the level of operational and marketing leverages. This means that the principles of marketing and ecologicistics interaction would be intensified to achieve the particular social, economic and ecological effects which become an important tendency of special scientific and applied studies.

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