

ENTERPRISES ECOLOGIZATION AS A PRIORITY DEVELOPMENT OF MANAGEMENT PRODUCTION PROCESSES ON THE MODERN AGE OF ECONOMICAL DEVELOPMENT

Olena Slozko (National Academy of Sciences of Ukraine, Ukraine) [✉]

Valeriia Kovach (National Academy of Sciences of Ukraine, Ukraine) [✉]

Abstract:

In the context of the current process of change in the patterns of good production and consumption that Ukraine has faced with the aim of overcoming the crisis, the ecologization of the industry becomes a priority, not only involving big corporations but also including small enterprises. The main lines of such ecologization should include issues as providing effective solutions to the problems of food waste regeneration and waste recycling, as well as contribute to the increase of the corporate ecological culture and to the development of new ecologically safe approaches to the production.

This paper provides some examples of ecological corporate culture implementation, allowing a comparative analysis in industry and retail sectors and justifying the reasons under the adoption of such measures.

Keywords: *eco-management; corporate culture; ecologization; eco-efficiency*

LA ECOLOGIZACIÓN DE LAS EMPRESAS COMO PRIORIDAD DE DESARROLLO DE LOS PROCESOS DE GESTIÓN DE LA PRODUCCIÓN EN LA EDAD MODERNA DEL DESARROLLO ECONÓMICO

Resumen:

En el contexto del actual proceso de cambio en los patrones de producción y consumo de bienes que ha afrontado Ucrania para superar la crisis, la ecologización de la industria se convierte en una prioridad, no sólo implicando a las grandes corporaciones sino también a las pequeñas empresas. Las principales líneas de tal ecologización deben incluir aspectos como soluciones efectivas a los problemas de regeneración de residuos de alimentos y reciclado de residuos, así como contribuir a aumentar la cultura corporativa ecológica y a desarrollar nuevos enfoques ecológicamente seguros para la producción.

Este artículo ofrece algunos ejemplos de implementación de cultura corporativa ecológica, permitiendo un análisis comparativo en los sectores industrial y de comercio y justificando las razones para la adopción de tales medidas.

Palabras clave: *eco-gestión; cultura corporativa; ecologización; eco-eficiencia*

[✉] Institute of World Economy and International Relations (National Academy of Sciences of Ukraine), 30 Leontovycha str. 01030-Kyiv (Ukraine)

e-mail: slozko2003@ukr.net

[✉] Institute of Environmental Geochemistry (National Academy of Sciences of Ukraine), Akademika Palladina prospect 34a 03680-Kyiv (Ukraine)

e-mail: valeriia Kovach@gmail.com

1. Introduction

Ecologization of the economy is not entirely a new problem. The practical implementation of the principles of sustainability is closely related to the knowledge of the natural process and technical level of production. What is new is the way to express the equivalence of the exchange between man and nature, based on the optimization of organizational and technical solutions aimed to the production and use of materials provided both by nature and technical resources.

The driving force behind the development of human society is a contradiction between the infinite ability to develop the values based on material and spiritual needs and the limited natural resources of raw materials and energy. What humans use at every stage of civilization is potentially sharpening the environmental situation; this is a temporary mismatch between the level of development of productive forces, the nature of industrial relations and capacity of nature to reproduce resources, that is, the transition to the new type of material production, where natural conditions have been exhausted, being the basis of the previous one. The history of mankind is closely related to the relationship of man with the environmental and social processes, including crisis periods, migrations, social changes and formation of political systems.

On this basis, the main goal of this paper is to show that in the context of the current process of change in the patterns of good production and consumption that Ukraine has faced with the aim of overcoming the crisis, the ecologization of the industry becomes a priority, not only involving big corporations but also including small enterprises. Specifically, the main lines of such ecologization should include issues as providing effective solutions to the problems of food waste regeneration and waste recycling, as well as contribute to the increase of the corporate ecological culture and to the development of new ecologically safe approaches to the production.

2. Background for ecological modernization

To be precise, a number of peculiarities of current ecological concern are due to the technological possibilities to influence the laws of nature, associated with the transition from the macro-level (e.g. mechanical action on the labour field, selection in Biology), through a micro-level (e.g. changes in crushing or processing activities, breeding new varieties of plants and races of animals) to the molecular and atomic level (e.g. quantum mechanics, thermonuclear processes, or biological genetic engineering). Technology of production based on natural selection and amplification processes aimed the achievement of certain goals by accelerating the production properties of the final output, which requires pure substances and any conditions of the alloy Islands (space metallurgy).

Modern production technologies should be considered not only as holding links in terms of its interaction with society and nature, but also with societal essence and human nature. This will give the public the ability to use natural substances and energy to adapt their way of life to the natural environment. As stated by Mol (2000), the influence of technologies on individual species cause locally identified hazards associated with stress (the high pace of life), and emotional interferences (noise, television and radio-broadcasting, urbanization, etc.). So it moves to that point that we are talking, not only about an ecologically safe production, but on an eco-efficient one.

Eco-efficiency as business philosophy encourages entrepreneurs to realize their responsibility for the environment. However, and even when in a number of countries this responsibility is determined (at least up to a certain level) by relevant legal standards, its essence mostly remains in a voluntary basis and/or a the voluntary initiative, because it is supported by economic mechanisms which will provide in future returns on investments in environmental programs, primarily due to achieved savings.

Thus, attempts to reach eco-efficiency do not necessarily imply the need of fundamental changes in the established system of enterprise. This system must adapt to existing modern realities through measures that allow setting a goal and achieving planned results either in terms of environmental aspects or in the economic sphere. Nowadays one of the best internationally recognized management tools allowing to implement the principles of eco-efficiency in practice of enterprises is the implementation of environmental management according to ISO 14001 standards.

Eco-efficiency also takes into consideration both environmental and economic efficiency. Not by chance the main motto of this concept is “produce more with less waste”. On the one hand, this comes from the reduction of the consumption of material and energy resources as well as subsequently the decreasing

waste production, then turning into a positive impact on the environment; on the other hand, the achieved results are also beneficial for business from an economic point of view, as they are giving rise to reduced costs for raw materials.

Specifically, some priority areas related to the production and product life cycle were suggested as key issues for action in which success will improve the eco-efficiency of the enterprise as a whole, including (Bystrakov and Kolosov 1992): i) reduction of materials consumption; ii) reduction of energy consumption; iii) reduction of emissions of toxic substances; iv) increase of the share of closed cycles in production processes; v) maximization of use of those materials that could be recycled and re-used; and vi) extension of the life cycle of products.

However, the implementation of the eco-efficiency principles in the ideology of a company is a difficult and long process. Success requires partnerships and active co-operation involving different agents as business, government, NGOs and other stakeholders. At this purpose it would be advisable to develop a corporate culture fully supported by the senior management, then these principles being recognized as organizational priority and instilling them firstly in employees and later in suppliers, dealers, consumers, etc. Additionally, senior management should recognize the responsibility of the organization for its products at all stages of their life cycle (Mol 2000), as well as reflect the subsequent commitment for the potential eco-consequences. Everyone in the organizational staff should be trained, attending educational programs and/or workshops specifically designed to raise the environmental awareness of employees, and their concern for the future of the company and the future of society as a whole.

3. Industrial transformations: the example of processing companies

There is an opinion that the introduction of environmental responsibility principles in a company requires a significant capital investment. However, this could be really true when we are talking on modernization approaches, but the rest of the eco-management measures can be carried out without any capital investment, and even saving resources for the company.

As a concrete example, businesses in Ukraine often use their reputation for the practice of “green” principles, just suggesting a more efficient use of the company resources, energy consumption and waste management. As indicated in a field study promoted by United Nations in 2010 (GCN Ukraine 2012), the obligations of a company aiming to perform accordingly to the parameters of a “green office” do not always require large expenditures in terms of time and resources, and often can even help it to save. Any company can take advantage of the “Green Office” philosophy, regardless its size, business sector or financial condition. What is more, even when the saving of resources in a small organization may appear as inconsequential, the inclusion of this kind of principles in the corporate culture helps to achieve the main intended goal, i.e. changing the attitude of employees and business in general to protect the environment.

GlobalLogic Ukraine is an offshore software R&D services company defining itself as “full product lifecycle services provider” (GlobalLogic 2012). According to the words by a company responsible they “are not wasting energy, turning off lights when leaving the premises. Employees themselves consciously watch and do it. This is training and this is what is most important”. This company has a parking for bicycles and offer its employees shower facilities, which promotes the adoption of the staff elements of “green culture”. In a similar sense, Olga Royenko, Communications Manager in the appliance and electronics company *Comfy*, states that they “need to attract employees to volunteer in the eco-initiatives of the company. The main and the most difficult thing is to motivate the team to join with pleasure the «green movement» and not because «it should be so»” - says, (Shcheglova and Miroshnichenko 2011).

We can find another example in *Group DF*, one of leading chemical industry investors in Eastern Europe (GroupDF 2012). “Environmental liability is primarily recognition of the problem of environmental pollution. And that somehow industry harms the environment” states its founder, Dmitry Firtash. The company has developed an integrated system to reduce harmful emissions on production consisting of an energy and environmental audit (assessment procedures, emissions, etc.), immediate actions to reduce energy costs, and introduction of eco-efficient production technologies. According to Managing Director Robert Shetler-Jones, “after the final structuring of the Group, we plan to publish regular reports on the environmental responsibility of enterprises for the period. In our opinion, the environmental policy of openness is the best source of people’s trust”.

Kyivstar is the national and largest mobile phone operator in Ukraine (Kyivstar 2012). The company's environmental responsibility focuses on three main areas: i) increasing energy efficiency in the network equipment and reducing CO₂ emissions; ii) performing in practice as a "green office" and reducing the consumption of natural resources; and iii) developing those products and services that help customers to become more environmentally friendly. It provides services which are specially developed for small and medium-sized businesses, as *Fax to Email*. "The program of environmental liability is part of our strategy of corporate social responsibility", emphasizes Social Responsibility Program Manager Alina Nishkur (Shcheglova and Miroshnichenko 2011).

As a general rule, the structure of large companies adopts a special infrastructure which is responsible for the programs and actions to face the eco-problems. Often this line is not allocated separately and it is included in the framework of CSR. Alain Matsiboh, Head of the *ACF Krona Group of Companies Niko* (which activities include automotive business, financial sector operations, construction, logistics service, custom brokerage and corporative social responsibility) states that at each enterprise in the Group there is responsible employee for environmental issues, which accounts to the company Manager. Additionally "there is a unit in charge of CSR throughout the Group, including its environmental component" (Niko 2012).

According to the findings from the research on "Corporate Social Responsibility 2005-2010: status and prospects of development", conducted by the *Global Compact Network Ukraine and Centre for CSR Development*, until their environmental reputation was in doubt, Ukrainian companies were not especially helpful. Half of the domestic companies (50.1%) did not carry out measures for the protection of the environment and even in 2010 the most common practice was application of energy saving technologies and programs of sorting and recycling. It should be noted that the proportion of such enterprises even decreased in a half if compared to 2005 results (CSR Ukraine 2012).

Some of most popular measures adopted in practice are still related to the protection of water, forests and other natural resources, as well as measures to reduce emissions to the environment. However, the proportion of enterprises adopting and using these techniques in 2010, as compared to 2005, decreased by five times. For example, 8.5% of enterprises said to be implementing measures to reduce emissions to the environment in 2010 while 35.4% were doing it in 2005, 7.9% of enterprises adopted measures to the protection of natural resources in 2010 while 25.6% were doing it in 2005, and so on.

According to experts, large and medium-sized companies are more likely than small ones to take measures to reduce emissions to the environment, introducing energy saving technologies, etc. On the contrary, initiatives as *Green Office* are not only focused on companies employing more than 500 people, but also specifically devoted to small businesses too. At regional level, the Donetsk region shows the highest activity for the implementation of various measures of environmental responsibility, most of the companies in the area adopting the "green office" guidelines.

Just to talk on a few examples, the brewing company *Obolon* introduced an environmental management system which every year faces an independent audit (Obolon 2012). As noted by Alexander Glus, President of the producer of alcoholic beverages *Nemiroff*, "today, as in 2007, there is no national standard with respect to environmental management, so it was decided to develop a volunteer management system" (Nemiroff 2012).

Eco-certification is important for the players and the hotel business. The *Rezidor Hotel Group*, which operates the *Radisson Blu* chain, actively works to increase the number of its eco-certified hotels, more than a half at the moment. In particular, the *Radisson Blu Hotel in Kiev* became in 2012 the first hotel in Ukraine which received an international eco-certified *Green Key* (Radisson Blu Kiev 2012).

4. Eco-management as a first step of social change

Another factor significantly contributing to the introduction of eco-management good practices is the increase in the number of Ukrainian partners signing the *United Nations Global Compact Agreement*, reaching the figure of 149 national companies by the beginning of 2012 (UNGC 2012). Three of the ten points of the agreement are devoted to the theme of the environment. So, signing businesses must come up with initiatives aimed at increasing the responsibility for the environment, and promote the development and diffusion of environmentally sound technologies.

We have also to take in mind that the development of eco-management practices is a requirement of environmental legislation, specifically regarding hazardous industries and their environmental impact. It should be noted that these requirements are increasingly correlated with the requirements of the international environmental system. On the other hand, the output of Ukrainian companies in the international markets and context requires compliance with certain criteria and standards which are largely related to environmental issues. To improve the competitiveness of their business in international markets Ukrainian players must conform to accepted norms in international markets.

One of pioneers in this process is a big business operating in the fuel and energy market, *DTEK*. As stated by Director of Industrial and Environmental Safety Dmitry Tykhyj, the company is “associated with production cycles that have a significant impact on the environment. Ecological balance is a prerequisite for the development of our business, for the increase its competitiveness in the European energy market, and for the implementation of the commitments in the field of corporate social responsibility. Ukraine’s accession to the treaty establishing the Energy Community in early 2011 requires the industry’s most advanced implementation of environmental regulations. All these factors contribute to the company to pay special attention to environmental issues” (DTEK 2012). To solve the problem of emission reduction, the company conducted a long-term investment program aimed at bringing the environmental performance of enterprises in accordance with the provisions of the relevant European directives as well as identifying potential threats and opportunities based on the understanding of the limited natural resources and the need for their sustainable use.

5. Shopping malls as examples of “green” policy

Issues related to the treatment of emissions and waste generated during the life of shopping centres initially have not mattered and remained unregulated. Nowadays the stringent requirements of the Ukrainian and European legislation have forced most companies to take a fresh look at these issues and insight into the problem, even when, unfortunately, barriers as the worsening ecological situation in the country, the lack of standardized approaches, or the lack of full information in case of most regulatory authorities are not leading to a quick and effective solution to the problem.

Metro Cash & Carry Ukraine constitutes a very good example of big shopping malls understanding their influence on the environment. The company started operations in the country in 2002, establishing headquarters in Kiev, and the first shopping centre Located in Darnytsa District opened its doors to professional customers in August 20th, 2003. The company works under a clear consciousness of the impact of its activities on the environment and undertakes protection and preservation measures concerning their impact on it. The development and implementation of any shopping centre in the *Metro Cash & Carry* matrix involves a sequence of actions for dealing with waste production and management (Metro 2012).

Currently (2012) *Metro Cash & Carry Ukraine* has 6500 staff employees and 26 retail centres successfully operating in 19 Ukrainian cities. As part of its business policy and commitment with the local community, the company uses to create some 350 jobs for local people associated to the opening of every new shopping centre, but this is not the only action in its internal responsibility program. So, for example, when the company was celebrating its 7th anniversary in Ukraine, it was decided to give a day a client charity campaign for the new school year “*To school together!*” and fun activities were developed to strengthen the team spirit of the employees of shopping centres which have been involved in the preparation of that day.

About 90% of the total range of *Metro Cash & Carry Ukraine* comes from 1200 Ukrainian producers, distributors and importers, which means a significant impact on strengthening cooperation with local communities. At the first glance, retail almost have no effect on the environment, but based on its own experience, the company has realized that the introduction of environmental management in stores can significantly affect the amount of garbage in some cities, especially where there is no existing waste processing companies. For example, there are a number of cities were all the garbage is still collected in the city landfill and remains there without decomposing for years or even centuries. If every company changes its approach to waste management, the environmental situation would immediately improve. In case of *Metro Cash & Carry* this is applied to the 25 cities in Ukraine where it operates.

So, the potential damage to the environment of a retail company could be expected to be low, if compared to the giants of metallurgy, chemical and heavy industry. However, researches and analyses point to the disturbing conclusion that any activity reserves a negative impact, including retail. Therefore, companies as *Metro Cash & Carry Ukraine* must adopt decisions about their social responsibility and take control of all processes affecting the environment and ecology. As a consequence of such decisions, we can talk on different concrete milestones in the process towards its own ecologization:

- In 2007 one of the company's shopping centres was included in the list of organizations which need to develop projects aimed to the limitation of emissions and the education on the topic. As companies had to order such work through a research institute, this led to significant costs.

- In 2008 several shopping centres were in the field of environmental services. A detailed study of the problem allowed the spectacular conclusion that the Department of Quality Assurance with the direct participation of employees of shopping centres would be able to carry out this work, thereby reducing costs in the development of documentation and simultaneously getting information to analyze the situation in the shopping centres. Thus, and after a successful trial in Dnipropetrovsk and Odessa, the Director of Quality Assurance decided to develop and implement a plan to step-by-step integrate environmental management in all *Metro Cash & Carry* shopping centres in Ukraine.

- In 2009 employees of shopping centres were identified and designed as responsible for economic security on the ground. These people became pioneers in this work. Later on, systematic studies on issues related to legislation, training and/or interaction with regulatory authorities allowed the company to develop a common concept of action for a full implementation of an emissions and waste management program.

- In 2010, once all shopping centres conducted an inventory of their emissions, they got their certification and developed limits on their formation. Overall, thanks to the staff of Quality Assurance and Shopping Centres, the company saved resources up to the amount of 850 thousand US\$ as it was not necessary to pay third parties in the development and implementation of this thorough eco-management system.

- In 2011 the development and implementation of a company manual on environmental security allowed learning of structured lessons, then providing basis to identify ways to develop and to improve, to determine key intervention areas and to take control of all processes taking place in the shopping centres.

As a result, the collection and disposal of solid wastes has clearly improved with the start of the project of sorting garbage containers in every *Metro* shopping centre over the last three years. Now they know on the possibility of getting more profits due to the collection of solid waste.

6. Conclusions

The implementation of environmental management standards according to ISO 14000 or the EU Eco-Management and Audit Scheme (EMAS) allows identifying and monitoring the implementation of eco-efficient capabilities for production processes. The application of management tools (assessment of environmental performance, evaluation of environmental impact, life cycle assessment, eco-audits, etc.) contributes to the identification and selection of improvement opportunities. Specifically, eco-design reveals as clearly advisable when developing products to avoid energy and material consuming components and to promote the use of components suitable for recycling and reuse in functional products meeting the needs of consumers. Optimization of production processes and technological innovations lead to lower levels of energy consumption, emissions, discharges and waste disposal. So, on the one hand, the direct adverse impact on the environment is reduced; on the other hand, unnecessary energy costs and environmental charges can be avoided.

Environmental or green marketing tools contribute to promote the consumption of eco-efficient products finding market niches demanding "green" products to functionally meet the environmental needs of consumers. Other advisable measures include use of environmental labelling, service improvement, and an increase of the duration of product-life cycle, including the possibility of obtaining additional income due to post-warranty service of products. Benefits of consumption come from the use of those features that provide these benefits. Meeting the functional needs of the consumer should evidence the responsibility of enterprises and be expressed in a flexible price policy (such as sale by instalments), the use of closed cycles, warranty services, and the ability to return goods for further recycling and reuse.

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