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**ECO-FASHION AS A NEW APPROACH TO SOLVING
SOME ENVIROMENTAL PROBLEMS**

Abstract. *This article raises an important topic of environmental pollution, which has begun to worry mankind over the past few decades. Scientists have concluded that industrial pollution of clothing and it's products is even more than waste from heavy industry. All the world's fashion houses, designers and fashion influencers are concerned about this situation, so they began to actively promote "conscious fashion" and the rational use of clothing in each of their new collections and advertising campaigns. Upcycling, recycling and eco-fashion have become one of the key concepts when we talk about rational use, these methods of processing old clothes, unnecessary things into something new and stylish, it is loved by many world designers, celebrities and fans of stylish mass market, who closely follow the fashion trend in the world. This is just one of many useful methods that allow you to create new things by recycling something unnecessary, while almost without harming the environment. In addition to fashion legislators, the problem of environmental pollution has been addressed by the modern chemical and physical industry, which is probably the most important component in the production of modern fabrics and clothing. Through various experiments and observations, scientists have agreed that various household and industrial waste (plastic packaging, various types of rubber, metal, pellicles) can be processed into useful and high-quality, high-tech and high-molecular fabrics and materials for sewing, using the latest chemical and physical technological equipment. Ukrainian light industry is only developing, but we already have some environmental problems due to the activities of this industry. Leading groups of scientists and specialists from various fields and spheres of activity are involved in their solution in our country, as well as all over the world. In general, the Ukrainian fashion industry has a great chance and a bright future in the global market of the fashion industry and light industry products.*

Keywords: *ecological problems; upcycling; recycling; methods of clothing processing; high-tech materials; modern fashion industry; environment; eco-fashion.*

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**ЕКО-МОДА ЯК НОВИЙ ПІДХІД ДО РІШЕННЯ
ДЕЯКИХ ЕКОЛОГІЧНИХ ПРОБЛЕМ**

Анотація. *У даній статті піднято важливу тему забруднення екології, що почала хвилювати людство останні кілька десятиріч років. Вчені дійшли висновку, що промислове забруднення одягом та продуктами його виробництва навіть більше ніж відходи від важкої промисловості. Усі світові будинки мод, дизайнери та модні інфлюенсери занепокоєні таким становищем, тому почали активно пропагандувати «усвідомлену моду» та раціональне використання одягу в кожній своїй новій колекції та рекламній кампанії. Апсайклінг, ресайклінг та еко-мода стали одними із ключових понять, коли ми говоримо про раціональне використання, ці методи переробки старого одягу, непотрібних речей у щось нове та стильне, полюбилися багатьом світовим дизайнерам, знаменитостям та фанатам стильного мас-маркету, що пильно стежать за модною течією у світі. Це лише одні з багатьох корисних методів, що дозволяють створювати нові речі, переробляючи щось непотрібне, при цьому, майже без шкоди для навколишнього середовища. Окрім законодавців моди проблемою забруднення довілля зайнялася й сучасна хіміко-фізична промисловість, яка є, напевно, найважливішою складовою у виробництві сучасних тканин та одягу. Проводячи різні дослідження та спостереження, вчені дійшли згоди у тому, що різні побутові та промислові відходи*

(пластикові тарни, різного виду гума, метал, плівки) можуть бути перероблені у корисні та якісні високотехнологічні та високомолекулярні тканини та матеріали для пошиття одягу, за допомогою новітнього хімічного та фізичного технологічного обладнання. Українська легка промисловість лише розвивається, але ми вже маємо певні екологічні проблеми через діяльність даної галузі. Для їх вирішення в нашій країні, так само як і в усьому світі, залучені провідні групи вчених та фахівців різних галузей та сфер діяльності. Загалом, українська модна індустрія має чудовий шанс та світле майбутнє на всесвітньому ринку індустрії моди та товарів легкої промисловості.

Ключові слова: екологічні проблеми; апсайклінг; ресайклінг; методи переробки одягу; високотехнологічні матеріали; сучасна модна індустрія; довкілля; еко-мода.

Introduction. Recent events in the world are a sharp reminder to humanity that is not everything as wonderful as we would like it to be. Constant cataclysms, natural disasters and major problems with the ecological system on the planet are forcing us to rethink our way of life and existence. It's time to remember that we have to leave behind us something beautiful, not just piles of garbage and dirt!

The environmental problems through the textile industry are far greater than we can imagine. The industry consumes about 132,000,000 tons of coal and from 6 to 9 billion liters of water every year, and 60 of the more than 100 billion garments produced each year are discarded by people within 12 months of purchase. All these things have a negative impact on the environment, destroying entire ecosystems, polluting and poisoning everything around.

Plastic in the oceans, the "sixth continent" of garbage, the mass of textile waste, low wages of textile workers – not a complete list of problems that have arisen in recent decades [1].

Sustainable fashion is still a little-known phenomenon for Ukraine, but it is rapidly gaining momentum in our country as well. In the light of recent events, organizations such as "Sustainable fashion pad", which acquaint society with such phenomena, are gaining popularity. More and more people are becoming interested in this topic. Fashion brands, famous stars, cultural and artistic figures, large companies, fashion influencers also did not stay away. They are actively concerned about this situation, so they began to promote "conscious fashion" and the rational use of clothing in each of their new collections and advertising campaigns.

So what is a "fast fashion", sustainable fashion and how important is upcycling nowadays, how mass production of clothes has a negative impact on the environment and where to start and what to pay attention to a young fashion brand that has adopted the ideas of "zero waste" as consume less clothes, choose more environmentally friendly materials and, in general, pay more attention to what clothes we buy today and what we wear.

Coverage of the topic of awareness or slow fashion is planned in the world in the future through various media, verbal and nonverbal advertising.

Objectives. The main purpose of this scientific article is to disseminate this important information among readers, to draw public attention to the problems we have today, to present and explain different ways to solve this problem, a comprehensive assessment of world and domestic experience in this work.

The international expansion of fast fashion exacerbates the problem globally. Fast Fashion focuses on speed and low cost in order to present new collections over and over again, copying images of celebrities or cheap brands. Producing cheaply and a lot, the mass market makes clothes "disposable". This is particularly dangerous for the environment, as the pressure to reduce the cost and time required to obtain a product from design to shop means that there will be many environmental consequences. This is the main problem in this area.

The modern chemical and physical industry, which is probably the most important component in the production of modern fabrics and clothing, has also addressed the issue of

environmental pollution. Through various experiments and observations, scientists have agreed that various household and industrial waste (plastic packaging, various types of rubber, metal, pellicles) can be processed into useful and high-quality high-tech and high-molecular fabrics and materials for sewing, using the latest chemical and physical technological equipment [6].

Nowadays, technology does not stand still. More and more products and materials appear on the market every day. Since the 19th century, light industry has been constantly evolving and improving. With the invention of new chemical elements, compounds, technologies and substances, new high-tech materials for clothing and footwear are emerging. Today, modern clothing is made from a variety of materials, which are due to modern chemical laboratories and constant research on the processing of residues from production and industrial waste: rubber, glass, plastics, silicones, metal fibers, nonwovens and other types [5].

Thus, non-traditional materials are the same plastic containers, rubber, silicones, old clothes, metals that have been processed by long and complex chemical and physical processes. High-tech materials are also widely used in the manufacture of various types of overalls, tracksuits, evening and concert attire. Clothing created specifically for firefighters, athletes, doctors, and military personnel is now called "smart clothing" [3, 4].

Upcycling – creating clothes from used clothes. Upcycling differs from recycling in that in the first case the main goal of the designer is to minimize waste, and in the second – to create a thing with added value. The added value appears as a result of the fact that the designer invests his creativity in production.

Upcycling is difficult to scale if it is a design approach of a particular brand. Used materials (post-consumer waste – materials that have been used) require a lot of effort to bring them to a state where they can be worked with again. At the same time, upcycling can be done at home: alter old things, repair, make applications and stripes, create something new from two or three things [2].

So, this direction and modern science save our planet from environmental catastrophe, pollution and create the latest materials that help people in everyday life.

Results. The results of this research are a number of collected facts and information describing specific environmental problems associated with the production and use of clothing, methods of combating and preventing the following problems: environmental pollution by industrial waste, garbage, declining natural resources, irrational use of purchased clothing, collected information on waste processing methods – upcycling and recycling.

Scientists claim that such a direction of clothing creation as "Eco-fashion" is one of the most promising trends of our time. Today it is supported by fashion houses and designers from all over the world, including Ukraine.

Things can be attributed to this category if the manufacture follows one or more of the following principles:

- ethical attitude to animals. Killing animals, birds or insects for the sake of outfits is a crime. Today, more and more people understand this. Ecological clothing excludes the use of fur, genuine leather, some types of silk, ivory, whalebone and mohair (all these materials are obtained by exterminating animals or changing the natural conditions of their habitat);

- careful use of natural resources. For example, "dirty" cotton production in poor countries consumes so much water that would be enough to consume several cities. Imagine that one T-shirt costs almost 3 tons of pure fresh water! Reducing consumption is extremely important, because according to the most modest UN estimates, in 10 years the shortage of drinking water will be felt in half the planet. In addition to water, we are talking about saving land and forest resources;

- no harm to human health. In the mass production of fabrics used a huge number of carcinogens, pesticides, harmful dyes, resins. They not only contaminate the soil and water, but also remain on the finished product, and thus penetrate the skin. Ecological clothing is sewn

only from those materials that have not been subjected to chemical treatment. These are exclusively natural fabrics, dyes and organic farming;

- secondary processing of raw materials. Plastic jeans are no longer fantastic. Sneakers of well-known brands are made from oceanic garbage, warm clothes from production waste, fleece - from plastic recyclables;

- the principle of fair treatment of all parties to the production process. Often on farms and in factories in India, China, Pakistan, Bangladesh, where 70% of the world's cotton is grown, basic working conditions and wages are violated. Eco-activists are fighting against the exploitation of child and adult labor, violation of workers' rights [1, 8].

Thus, the above was proved the feasibility and relevance of the chosen topic, the reasons for its occurrence, issues, methods of solving this problem, the history of the study of this issue, the task, the main provisions of the topic.

Conclusions. So, let's discuss the results of this article. People need to get rid of the misconception that conscious fashion only means using your own clothes already in the closet. There are many small and easy changes that can be made. Together, they will be of great importance to the environment, both socially and ecologically.

For example:

- buy less and choose better things that are made as ethically as possible, check the labels and think about the warehouse and factory;

- to think about where and how clothes are made, from what each detail is made. Where possible, do not buy petroleum-based synthetic materials such as polyester and nylon, which are actually plastics. Every time such fabrics are washed, they lose thousands of microfibers, which end up polluting rivers and oceans;

"Reuse, Reduce, Recycle" – every product we buy affects the environment, from the materials used to create it, to the carbon dioxide released during production and transportation to stores. So before you buy, ask yourself if you really need it.

Optimize your wardrobe: always think do you really need this thing? We often shop impulsively, which is why every year about 10,5 million tons of clothing in the United States goes to landfills and increases the level of global textile waste. You can follow the hashtag #30wears, which means that the fashionable bow has been worn at least 30 times. Give unnecessary and worn things for recycling. In Kyiv it can be done in the Laska and H&M stores.

Kyiv National University of Technology and Design also plays an important role in solving environmental industrial problems in Ukraine. Necessary educational disciplines are included in a number of programs for which young specialists. Teachers and students of the university constantly discuss these topics, discuss problems and methods of their solution, call for indifference, proper production and reasonable consumption of light industry products.

"Pecherski Kashtany" – International Competition for Young Designers has been held in Ukraine for many years. The founder and organizer of the competition is the Kyiv National University of Technology and Design (KNUTD). The competition is held in order to realize the creative potential of student designers.

The objectives of the Competition are: to create conditions for the realization of the creative potential of young people in the field of design and fashion; demonstrate the results of creative work of young designers to a wide range of professionals and potential consumers; to promote higher education by future specialists in manufacturing industries: textiles and textile products, clothing and fur, leather goods and footwear, etc.; to popularize the work of young designers; to spread among students and young designers modern trends in the global fashion industry; to create conditions for strengthening and development of ties between the creative youth of Ukraine of other countries of Europe and the world [7].

Last year, the competition was dedicated to protecting the oceans, seas and rivers from pollution by waste from clothing and other textile rubbish. About a hundred young designers

took part in it, and in the final the best collections of clothes on this theme were demonstrated. Thus, this competition promotes the environmental theme, increases the level of environmental responsibility among the younger generation, creates non-verbal advertising for young brands, helps to promote the market of quality and environmentally friendly light industry products.

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