**GLOBAL ISSUEs.**

**influence of Ukrainians on THEIR solving**

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Lviv – 2017

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# Global issues

Until recently the planet was a large world in which human activities and the nature were in balance. Nowadays the situation has changed dramatically.

Today I would like to draw your attention to the following global issues:

* environmental issue
* global climate change
* species loss
* spent nuclear fuel
* energy impact.

These and many other problems is what we have to deal with now.

The time has come for the governments and people to take responsibility for the policies that cause the environmental damage. The aim is to examine the environment and problems development on the planet and to solve them.

# Ways of global issues solving in Ukraine

In order to find proper solutions to the global issues, much attention is paid in Ukraine.

## Environmental issue

One of the huge environmental issues is air pollution. One of its results is acid rain. It is caused by smoke from factories and transport. Nowadays the emission of smoke is strictly controlled by special governmental agencies. Campaign for environmental protection is supported by public organizations and individuals as well. Among the leading environmental organizations in Ukraine are the Greenpeace and the Green Party.

## Global climate change

A non-governmental, non-profit organization National Ecological Centre of Ukraine (NECU) works to integrate European Working Group decisions on climate change issues into Ukrainian government policies. NECU works with media and general public and also takes active part in international negotiations on the reduction of greenhouse gas emissions, monitors the implementation of Kyoto protocol mechanisms in Ukraine.

## Species loss

NECU altogether with local activists across Ukraine is campaigning for new nature protection zones creation to keep unique species of animals and plants in their natural habitat. It also makes sure that the existing protected territories remain untouched. NECU also stands firm against illegal building construction on green territories in Kyiv region

## Spent nuclear fuel

Another issue of concern in Ukraine is where to store nuclear waste. Many countries have no storage facilities for the spent nuclear fuel. This waste is largely the spent fuel of reactors. It is radioactive, and some of its components remain forever. The waste is held at temporary sites until a solution of the problem can be found. The search for ways to dispose of radioactive waste has been going on for ages. Recently Ukrainian scientists have found the most promising solution of the waste storage issue – the solution is nuclear waste recycling.

# The impact of Ukrainians on global issues

Ukraine is trying to switch the energy policy away from intensive coal and nuclear energy production to energy efficient economy and alternative energy sources. Ukrainian companies currently work on the new approaches in energy sector management.

## Prototype of First Ukrainian Electric Car

Ukraine pays much attention to reducing the negative impact of the transport sector. The government emphasises the vital importance of using the eco-friendly transport and developing effective solutions to transport issues in Ukrainian cities and worldwide. One of the achievements is the attempts to produce Electric Cars.

The prototype of the first Ukrainian electric car, which is called the **Synchronous**, was presented in Monte Carlo during the international conference dedicated to the eco-friendly transport and renewable energy sources in April, 2016.

The Ukrainian company *Electric Marathon International* developed the Synchronous electric vehicle for the tourism industry. The car, which accommodates six people, is designed for driving in urban areas at speeds of 60-70 kilometers per hour. The electric car could be used for hotel shuttles, municipal taxis, cars for sightseeing etc. The Synchronous is designed in the style of retro-futurism. "We wanted to create a recognizable car," Electric Marathon International’s CEO Andrii Bilyi said, explaining the unusual design of the electric car.

Synchronous is the first electric car prototype fully developed and assembled in Ukraine: a design agency *SkyRye* ([Kyiv](https://en.wikipedia.org/wiki/Kiev)), an engineering company *Eco-Factor* ([Odesa](https://en.wikipedia.org/wiki/Odessa)) and *E-Line* ([Dnipro](https://en.wikipedia.org/wiki/Dnipropetrovsk)) – the сompany developing the charging station for the model Synchronous.

The body of the car is made of fiberglass. The electric vehicle has an asynchronous front axle engine, charged by Lithium-ion accumulator. The car has 19-inch disks, a rear view camera, an air conditioner with autonomous charging from solar panel located on the top of the car's roof and a multimedia system.

In May–June 2016 the concept of Synchronous electric vehicle took part in the annual trans-European electric-car rally *"Lviv – Monte-Carlo Electric Marathon 2016*". The Synchronous was displayed in 10 European countries and 23 cities during the rally.

## Ukrainian eco-house – revolutionary breakthrough

A Ukrainian company has been currently making revolutionary changes by producing an eco-house called **PassivDom**, which is an environmentally low-impact home designed and built using materials and technology that reduces its [carbon footprint](https://en.wikipedia.org/wiki/Carbon_footprint) and lowers its energy needs. It sidesteps the electrical grid as well as water and sewer service. It’s marketed as utilizing revolutionary breakthrough in wall insulation which they claim makes it very easy to heat and cool. The company creates mobile homes that can be made anywhere and are completely self-powered. The “autonomous 3D-printed mobile house” is potentially world-saving project.

Max Gerbut, a Ph.D. of Engineering Sciences of physics of the solid state, has built the houses in Ukraine and works on spreading it all over the world. “PassivDom is the world’s first mobile and transportable house with Passive House parameters,” said Gerbut. “Due to the use of advanced materials and unique achievments of our engineers, it has the highest thermal performance among residential buildings. The walls of PassivDom are as warm as brick. Thermal characteristics are high enough to use 20 times less energy than an ordinary building. That’s why it is possible to realize full off-grid autonomy in a cold climate without complex and expensive engineering heating system.”

The eco-house includes solar panels that power the climate control system, a clean water system that takes moisture from the air and an air quality control system that includes carbon dioxide control. The frame is made of 3D-printed carbon fiber and fiberglass, and the entire house is recyclable.

Let’s describe some advantages of this eco-house.

### Energy independence

Wherever you are – in the centre of New York or high up in the Andes Mountains, PassivDom will create the ideal living conditions. The house is 100% energy self-sufficient: it heats air using the solar energy. Air-conditioning utilizes water storage system.

### The warmest house in the world

Due to the use of advanced materials, insulation technology and unique achievments by Ukrainian engineers, the eco-house has the highest thermal performance among residential buildings. Walls are as warm as brick, being 7,33m thick.

Ukrainian engineers tackled a difficult task — to create windows as warm as walls. And they managed —windows are the warmest in the world. That is why there are really big windows in the houses that let in a lot of light inside. According to recorded data, all thermal indicators exceed the requirements of the industry: so it is cool in the summer and warm in the winter.

A self-learning micro-climate system creates favorable conditions inside the house: maintains the ideal temperature and humidity, monitors the oxygen and carbon dioxide content.

### My PassivDom is my castle

Even a minimal configuration of the eco-house has burglary protection system. Tempered glass, aluminum windows and doors, a strong carbon and fiberglass frame that is 6 times stronger than steel, make it an impregnable against burglars. For the sake of protection, every PassivDom has a built-in GSM-alarm system that keeps an eye on the house.

### Mobility — travel without problems

PassivDom is mobile and can be transported to any place. House frame is 9 times stronger than steel which allows transporting multiple times. The house doesn’t need a basement, so it can be easily located on the shore of the picturesque lake, in a grove or in the mountains. PassivDom can legally be established on any type of land and significantly less expensive than the purchasing of a building plot.

### Reliability and durability

The eco-house is made of modern materials: fiberglass, carbon, polyurethane. The walls of the house can’t rust like iron or rot like wood. The house is not combustible and doesn’t give off emissions. PassivDom doesn’t contain SIP-panels, foam or wood. It will not become colder with time — there are no materials that lose properties of thermal conductivity.

### Eco-friendly PassivDom

The house uses only clean solar power and doesn’t need the combustion of gas, coal or any other fuel. Zero-emission preserves nature and makes PassivDom environmentally friendly.

# Conclusion

Ukrainians pay much attention to the global issues like environmental, global climate change, species loss, spent nuclear fuel, energy impact. Our scientists and businessmen have succeeded in solving many of them and have made a real influence on the world. The new approaches to energy sector management, storing nuclear waste etc. are spreading fast and nowadays are widely used all over the world.

We all realize: if we are unable to learn how to use the environment carefully and to protect it from destructive human activities, very soon we’ll have no world to live in.

# Summary

Ukraine is the second largest country in Europe and has a population of 43 million, the majority of whom live in urban areas. Ukraine faces a number of environmental challenges like: air pollution; quality of water resources and land degradation; solid waste management; biodiversity loss; human health issues associated with environmental risk factors; in addition to climate change. The scope of Ukrainian environmental legislation is quite broad and comprehensive and covers most areas of environmental protection and natural resources management.

Non-governmental, non-profit organizations in Ukraine consolidate individuals for common actions to protect the environment and solve global issues. Among them are businessmen, scientists, journalists, artists, students and other people who wish to add their own value to solving global issues inside as well as outside of Ukraine.

# Resources

1. National Ecological Centre of Ukraine - <http://en.necu.org.ua/>
2. Centre for Transport Strategies - <http://en.cfts.org.ua/news/prototype_of_first_ukrainian_electric_car_presented_in_kyiv>
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