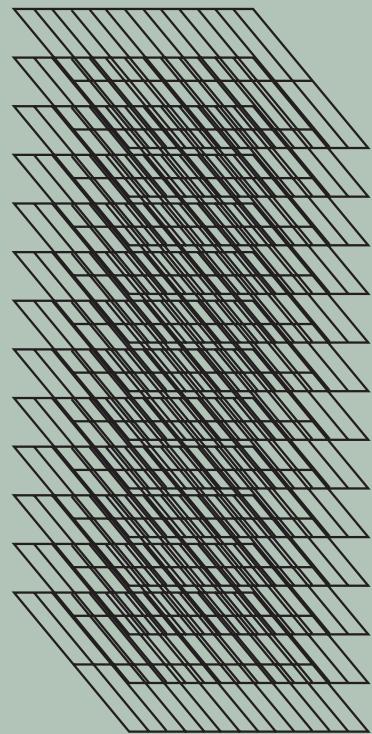




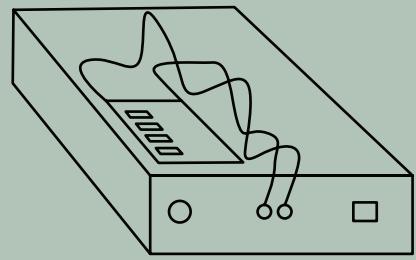
# GREEN TECH CATALOG



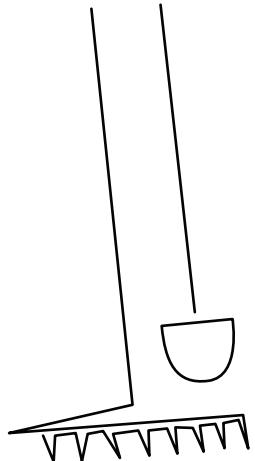
2024



GEN UKRAINE  
GLOBAL  
ECOVILLAGE  
NETWORK



# OffGrid Solutions from ecovillages in GEN Ukraine



**S**elf-sufficient energy supply in an off-grid household of 3 kW Platon Danilov Downshifter community of Kovalyn village Pereyaslav region Story

Water Collection and Recirculation System at the Tepla Gora Eco Centre Story

Solar oven in the ecovillage My Ukrainian dream Story

Roundycubes are a low-tech innovation from recycled tires. Ecovillage Vasylivka Story

Solar invertor production in ecovillage SontseSvit Story

Ukrainian Yurts: An Innovation in Natural Eco-Construction Story

## Regenerative lands

The Green Lagoon Landscape Reserve Project in Granidub and Posolon Ecovillages Story

Project “Bhumy” in Ukraine: A Cow-Centered Sustainable Development Model Story

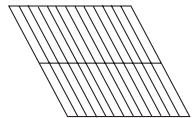
Holistic Planned Grazing Management for Biodiversity Restoration: Experience from the Podkova Research Farm at the Hlyboki Balyky Ecostation Story

Bee Houses for Solitary Osmia Bees in the Rosy Ecovillage Story

## Bicycle workshops in Ukraine

Power Banks for Routers by Ecovillage Velesvit: Solving Blackout Challenges

# Self-sufficient energy supply in an off-grid household of 3 kW



We are excited to share a successful example of self-sufficient energy supply by our member, Platon Danilov, who has implemented solar panels and lithium-ion batteries. Platon lives in a downshifter community in the village of Kovalyne, Pereyaslav region, in an abandoned house where no one had lived for about 30 years.

Almost three years ago, I purchased an abandoned house in the woods where no one had lived for 30 years. Even no power grid post was there. Therefore,





my solution to the problem of electricity supply was obvious: off-grid solar system. Since I am single and also decided not to use the extra electrical appliances I had in the city, such as an electric kettle or toaster, I opted for a 3 kW system offered to me by an ecovillager.

In the early May 2022, I installed 4 solar panels, max. generation power 395 W each, myself, on a simple wooden structure close to my house, and connected the rest of the components inside: 3.2 kW/24 V inverter, 140 Ah LiFePO4 battery, and a control module.

This winter, I had to send the battery for maintenance because in December, when the days were shortest, I failed to keep track of the charge and allowed full discharge of the battery. The period of battery absence turned out to be quite long, and at that time I already had all the consumers I have now, i.e. an electric pump, fridge, washing machine, laptop, etc., and the deadlines to my online customers, so I had to buy an additional 90 Ah/24 V battery, as well as a generator as a backup source to power the batteries in such a case.

In the summer it's the opposite, I have an extra power production, that could be used to water plants or to heat water with a boiler. However, I haven't got a boiler yet, hopefully, a grant from GEN Ukraine helps me to do so.

Production: 4x 395 W Trina solar panels, 3.2 kW/24 V inverter, FePO4 batteries: 140 Ah + 90 Ah.

Consumption: a water supply pressure pump, a fridge, a laundry machine, an induction cooker (used except late autumn and winter), a laptop, some light bulbs.

## **Autonomous Energy System:**

- Solar Panels: 4x 395 W
- Inverter: 3.2 kW / 24 V
- Batteries: 140 Ah + 90 Ah lithium-ion batteries

## **Consumers:**

- Well pump for water
- Refrigerator
- Washing machine
- Induction stove (used except for late autumn and winter)
- Laptop
- Router
- Lighting lamps

## **Project Background:**

Three years ago, Platon bought an abandoned house in the forest with no connection to the centralized power grid. His solution was autonomous solar power generation. In May 2022, he independently installed a 3 kW system, including 4 solar panels, an inverter, and batteries.

## **Challenges and Solutions:**

In December, there was an issue with the full discharge of the battery, which required technical maintenance. Platon purchased an additional 90 Ah battery and a generator as a backup power source. In the summer, he has excess electricity generation, which he plans to use for irrigation and heating water with a boiler.

## **Learn More:**

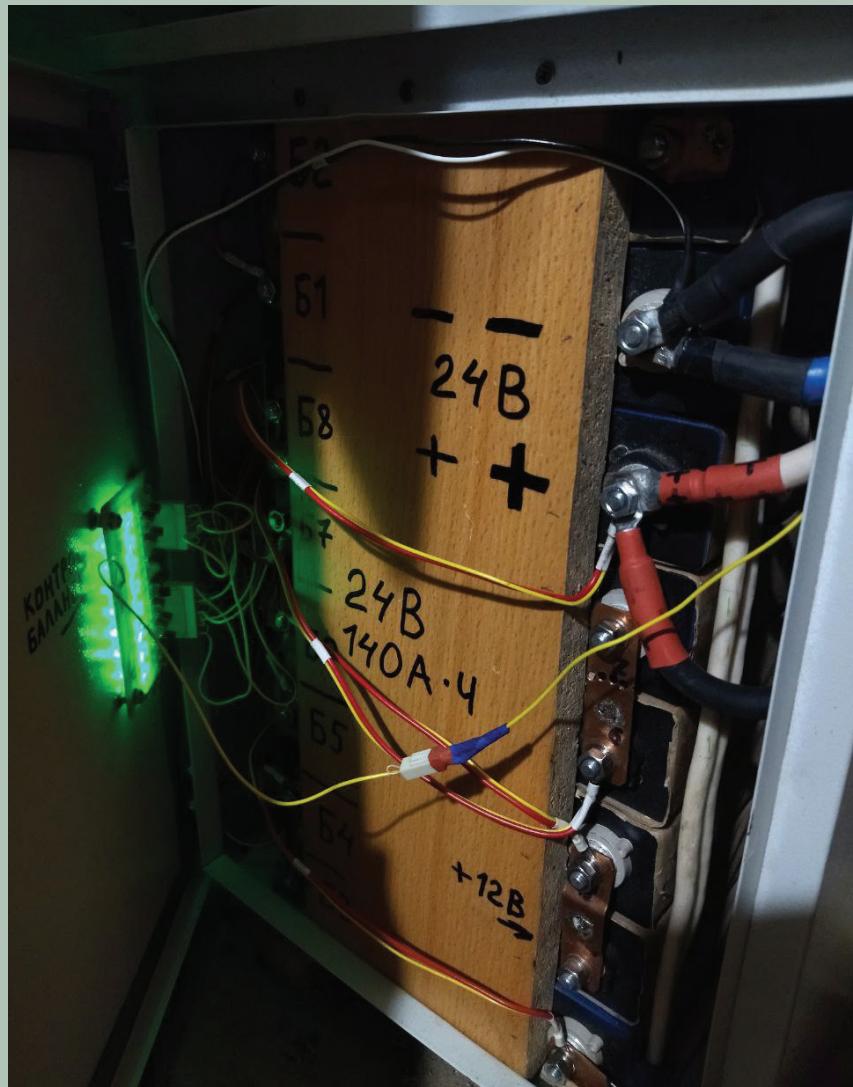
- Main story about the electricity system: <https://www.youtube.com/watch?v=jxvt0YGn4w>
- Short video on panel maintenance: <https://www.youtube.com/watch?v=QNIbV8jXyPg>

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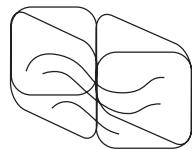
## **Opportunities for Visitors:**

- **Horseback Riding in Nature:** Horse riding with Viktor Sergienko, communication with hosts, and a tour of daily life.
- **Volunteering in the Settlement:** Assistance in construction, gardening, agriculture, stove crafts. Accommodation, food, horseback riding, and a wood-fired sauna for volunteers.
- **Visiting Dmitro's Family:** Communication, forest walks, and swimming in a clean lake in summer.

We invite everyone to visit our settlement, learn useful skills, and experience rural life firsthand.



# Implementation of an Innovative Water Collection and Recirculation System at the Tepla Gora Eco Centre



The Teply Hor Eco Centre continues to develop, providing sustainable and eco-friendly resources for its community, displaced persons, and volunteers. One of the recent significant achievements is the implementation of a water collection and recirculation system, ensuring the needs of all residents are met.

## Water Supply Sources

The eco-centre has several water supply sources:

- Stream on the right side of the hill. With the support of GEN Ukraine, a tank with a pump has been in-





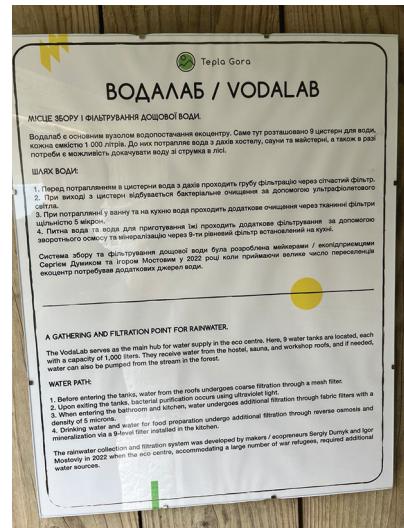
stalled here, supplying water to outdoor showers during peak guest times, such as during the Avatar Yoga Festival, which hosted 300 participants.

- Mountain spring water reservoir with a capacity of 1 cubic meter, located 200 meters above the eco-centre. This reservoir provides additional clean drinking water, which is particularly valuable during the expansion of the eco-village based at the eco-centre.
- Rainwater collection from the roofs of the hostel, workshop, and sauna. This water is collected and centrally used for the needs of approximately 20-25 residents of the eco-centre.

## VodaLab System

VodaLab serves as the main point for collecting and filtering rainwater. Key features of the system include:

- **Storage:** 9 tanks, each with a capacity of 1,000 liters, collecting water from the roofs of the hostel, sauna, and workshop. If necessary, water can also be pumped from the stream in the forest.
- **Water Path:**
  1. Before entering the tanks, the water undergoes coarse filtration through a mesh filter.
  2. Upon exiting the tanks, bacterial purification occurs using ultraviolet light.
  3. When entering the bathroom and kitchen, the water undergoes additional filtration through fabric filters with a density of 5 microns.
  4. Drinking water and water for food preparation undergo additional filtration through reverse osmosis and mineralization via a 9-level filter installed in the kitchen.



The rainwater collection and filtration system was developed by eco-entrepreneurs Sergiy Dumyuk and Igor Mostoviy in 2022 when the eco-centre, accommodating a large number of war refugees, required additional water sources.

## Importance of the System for the Community

This innovative water supply system not only meets the needs of the eco-centre residents for clean water but also represents a crucial step towards creating a fully autonomous and sustainable settlement. The implemented solutions demonstrate the possibilities of using natural resources to support community life in the face of environmental crises and war.

The Teply Hor Eco Centre continues to work on improving its environmental initiatives, setting an example for other communities in Ukraine and beyond.

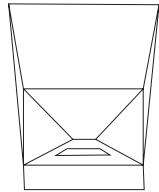
More info <https://teplagora.notion.site/Sustainability-at-Tepla-Gora-84440b372e284ce9aec90ff-9cec81e3b?pvs=4>





# Solar oven in the ecovillage My Ukrainian dream

**SunHeater by Mark Melnichenko**



## **Ecovillage My Ukrainian Dream, Zakarpattia**

Mark Melnichenko developed and refined his own model of a solar oven called the SunHeater. This oven is designed for use in ecovillages and is an ideal solution for those who want to live in harmony with nature.

### **A Bit About Me**

My name is Mark Melnichenko, and for several years I have been building my own clay house in a picturesque forest near Uzhhorod. During this time, I have been visited by many volunteers and guests. Around the house, I am planting a permaculture garden and





vegetable plot. In my work, I use only natural materials. My goal is to create a comfortable and harmonious space with nature, where it will be pleasant for my family and me to live, thus setting an example for others.

I actively travel, study the experience of like-minded people, invite volunteers to my place, organize trips to the Carpathians, and dream of realizing my potential in Ukraine. You can read more about my specific activities on my Telegram channel and watch my YouTube videos. I am open to cooperation and would be glad to host you at my place or visit you with my master classes on adobe construction, pottery, or permaculture.

### About the Solar Oven

A solar oven is a device used for cooking food using the energy of the sun. It works on the principle of concentrating sunlight into a focal point where the food is placed. Solar ovens are environmentally friendly and energy-efficient solutions that do not require fuel or electricity. They are ideal for remote areas where access to traditional energy sources is limited.

### How a Solar Oven Works

- The main components of a solar oven include:
- Reflectors: These direct sunlight into the central part of the oven.
- Heating chamber: This is where the food is placed and heated to high temperatures due to the concentrated sunlight.
- Transparent cover: It keeps the heat inside the oven and allows sunlight to pass through.

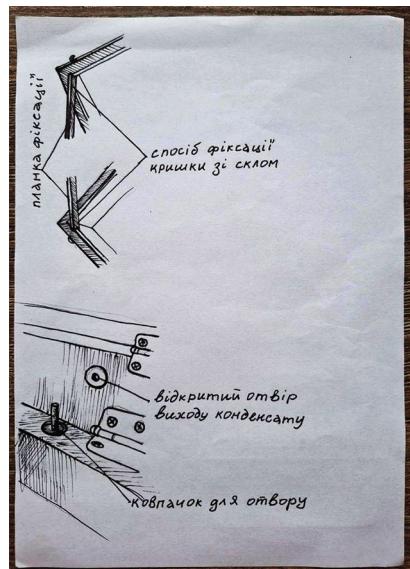
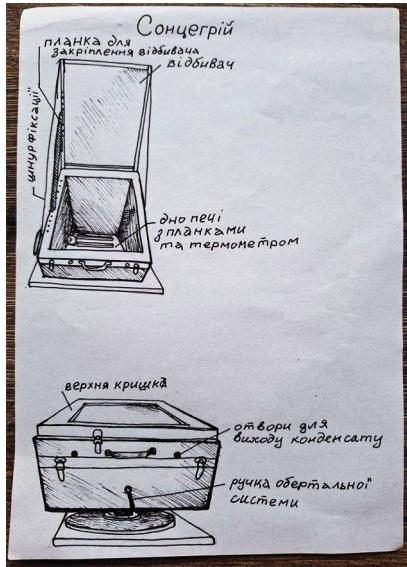
## **Rules for Using the Solar Oven**

1. Place the oven on a flat, stable surface.
2. Unlatch the clasp in the center of the oven and open the top lid.
3. Direct the solar “beam” to the center of the oven, and fix the reflector in this position with a plank and two nails using the upper and lower holes in the body.
4. **IMPORTANT:** Secure the lid with a cord. This ensures good fixation of the reflector and allows you to freely open the glass lid to place or remove the dish.
5. **IMPORTANT:** Do not leave the reflector unsecured.
6. Unlatch the two clasps on the body of the oven and SECURE the glass lid with a plank with cut-outs.
7. Place a thermometer and racks or a table inside the oven, depending on what you plan to use for cooking.
8. **IMPORTANT:** Before starting to heat the oven, check how the dish you plan to cook fits best, so that it does not touch the glass.
9. DO NOT place the dish directly on the bottom of the oven without racks or a table, as the food will not cook evenly.
10. When the oven reaches 100 degrees Celsius or more, place the dish inside for cooking.
11. Cooking in a solar oven is similar to cooking in a wood-fired oven.
12. It is important to add all the ingredients to the chosen dish and season it to taste.
13. DO NOT OPEN the oven during cooking, as this will decrease the temperature in the oven and increase the cooking time.
14. **IMPORTANT:** Do not allow the glass to be shaded during cooking.
15. Rotate the oven using the rotation system approximately every 40-60 minutes by lowering the handle, and adjust the solar “beam” to your dish.
16. In case of excessive condensation, leave the oven closed with the reflector raised, the sun will help to get rid of the condensation.
17. You can also speed up this process by removing the plugs from the holes at the top and bottom of the oven, allowing air circulation between the glass.
18. **IMPORTANT:** Replace the plugs in the holes before the next use.

## **Enjoy the ease of cooking and delicious SOLAR meals**

TikTok video: [https://www.tiktok.com/@my\\_ukrainian\\_dream/video/7390632443398688006?r=1&t=8oEMgH1hMAg](https://www.tiktok.com/@my_ukrainian_dream/video/7390632443398688006?r=1&t=8oEMgH1hMAg)

A few more words about the oven from me. In one summer day, you can cook 2 dishes: one at 11 am and another at 1 pm. The oven needs to be turned towards the sun once an hour. This time is enough to bake potatoes, make cupcakes, or cook cauliflower.



The oven is also great when it's hot outside and lighting an open fire or cooking on gas is not an option, as the heat radiation can be harmful to a sweaty person.

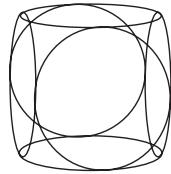
## Main Disadvantages of the Solar Oven

- Protection from rain:** The oven needs to be brought inside or rolled under a roof, which adds extra steps.
- Weather dependency:** If the weather is cloudy, cooking won't work. In winter, the oven will work, but this is still only theoretical.
- Price:** The oven costs 5,900 UAH. This is due to the multiple layers of insulation, the precision of the fitted parts, and the rotation mechanism, which requires about three days of work for one person.

## Conclusion

Having such an item is great, but not necessary. Therefore, there are only a few buyers so far. However, a solar oven is an excellent example of using renewable energy sources and can become an important element of an eco-friendly lifestyle.

# Roundycubes – An Innovative Development from Vasylivka Eco-village

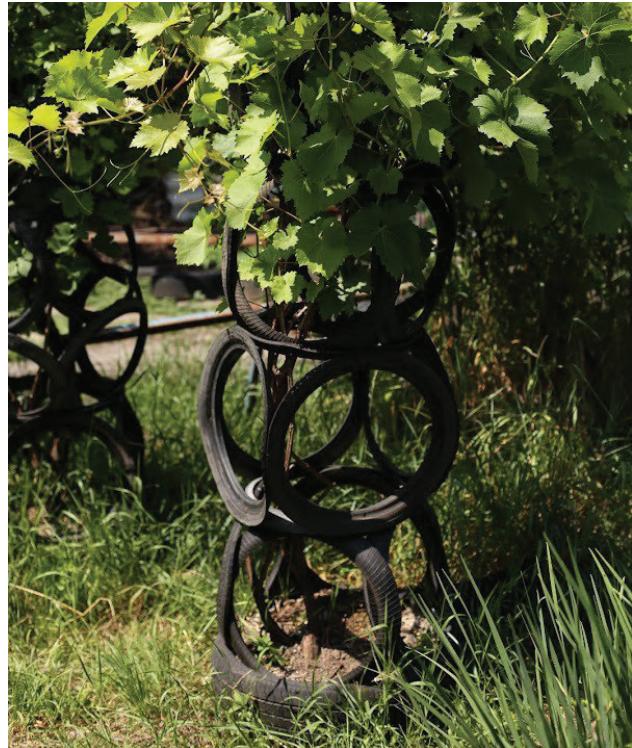


## Presented at EcoExpo in Germany 2023

Roundycubes are a low-tech innovation made from recycled tires, developed in the eco-village of Vasylivka, Nadnipryanshchyna. This village houses an experimental tire recycling hub.

### Applications of Roundycubes:

1. Protection of seedlings during grass mowing
  - Seedlings often get cut during mowing. Roundycubes solve this problem 100%.
2. Straightening the trunk of the seedling
3. Shaping the branches of the seedling
  - Roundycubes help adjust the growth direction





of branches, especially important for hazelnuts.

4. Covering with agrotextile
- Protect seedlings from frost and snow.
5. Supporting garden tools
  - Roundycubes are strong and stable, allowing for convenient storage of garden tools.
6. Protection from dog urination
  - In public spaces, they protect seedlings from being damaged by animals.
7. Visual marking of seedlings
  - Help mark seedlings from a distance, which is important for planning a garden.
8. Basic module for complex constructions
  - Can be used to create fences, supports for vines, and other structures.

### **How to Assemble a Roundycube:**

- You need 3 car tires of the same diameter.
- Cut out 6 rings and connect them with self-tapping screws.

### **Why Recycling Tires is important:**

- Utilization
  - Tires are bulky waste that needs to be recycled.
- Resource
  - Tires are a free building material with interesting properties that can be used for creating geopolastics, buildings, and other objects.

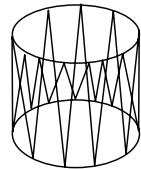


I Learn more about Roundycubes: <https://t.me/roundycube>

Watch Oleksandr Subбота assemble a Roundycube in a few minutes: <https://www.youtube.com/watch?v=onGTj5tsVz0>

#EcoVillage #TireRecycling #SustainableDevelopment #EcoExpo2023 #Vasylivka #Ukraine

# Ukrainian Yurts: An Innovation in Natural Eco-Construction



## Dzin Yurts Glamping

Welcome to Dzin Yurts Glamping, the location of a retreat festival space and volunteer community known as Dzin Space. Situated on the top of Mokrysh Mountain in the village of Kryvopillia, Ivano-Frankivsk region, Dzin Yurts are a modern take on traditional Mongolian yurts, designed for temporary living in harmony with nature.





## The Journey of Creation

The journey of creating these modern yurts began in 2019, spearheaded by the founders Alex Fedorov and Eduard Yasaveev. Their extensive travels around the world and interactions with like-minded individuals inspired them to create a unique space in Ukraine, dedicated to hosting and organizing international retreats and festivals.

Initially considering the construction of tipis, Alex and Eduard soon realized that yurts would be a more optimal and efficient use of space and materials. After numerous experiments and iterations, they developed a stable and functional yurt design featuring a central circle of film and wood in the roof, which allows for stargazing at night while providing structural support.

## Yurt Specifications

Dzin Yurts are equipped with wooden beds, bedding, and electricity. During cooler nights, electric sheets extend the usability of the yurts from April to October, sometimes even into November. Volunteers and guests alike enjoy the comfort and rustic charm of these yurts, surrounded by the serene beauty of the Carpathian Mountains.

Each yurt has a diameter of 4 meters, a height of 2.5 meters at the center, and 2 meters at the edges. These dimensions provide a spacious and cozy interior for the occupants.

Since 2019, Dzin Yurts has hosted guests from 25 countries, with 2,000 to 3,000 visitors each season. During the wartime period from 2022 to 2024, approximately 1,700 people have visited the space.



## Community and Accommodations

The maximum number of yurts built in a single season is 28, accommodating between 1 to 4 guests each. Additionally, a large shaman's yurt is available for events and gatherings, such as musical jams, massages, meditations, and other practices. The interior of the yurts is adorned with woven dream catchers, macrame, colorful mandalas, and occasional paintings, creating a cozy and artistic atmosphere.

## Sustainable Living

The cost of building a single yurt ranges from \$700 to \$1,000. The walls are made from Oxford 600D material, and the floors are either carpeted or made of wooden boards. Guests are offered a vegetarian menu and are asked to refrain from consuming alcohol or smoking at the retreat center.

## Future Goals

Key tasks for the future include the construction of a common winter space and establishing a personal water source. The space is open during the warmer months, with a few volunteers staying on during winter to care for the space and the animals. A permaculture garden has also been established, further promoting sustainable living.

## Join the Community

Managed by Yevhen Demidyonok since 2022, Dzin Space welcomes visitors for excursions, short stays, event hosting, or volunteering. You can find more information and book your stay through booking.com,



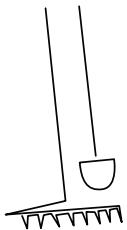
Google Maps, or follow them on Instagram and Facebook [@dzin.space](https://www.instagram.com/dzin.space), or visit their website <https://dzin-space.com/>.

Experience the tranquility and natural beauty of living in yurts on top of a mountain, surrounded by forest, and as close to nature as possible. Witness morning fogs, sunrises, sunsets, and the diverse flora and fauna of the Carpathians. This type of temporary housing is easy to build and embodies an ecologically harmonious way of life.

**Author:** Yana Mitina Koval

**Photos:** Community Archive

# The Green Lagoon Landscape Reserve Project in Granidub and Posolon Ecovillages



The Green Lagoon Landscape Reserve spans over 100 hectares along the Tnya and Tenka rivers, including a 5-hectare arboretum. While the Brokivska Village Council officially manages the reserve, Anatoliy Ivanovich Nagorny and the residents of three ecovillages – Space of Love, Ecopolis Granidub, and Posolon – undertake most of the work.





## Goals and Objectives

- **Nature Conservation:** Preserve and restore forests, wetlands, and water resources.
- **Reclamation:** Eliminate unauthorized dumpsites and convert them into parks.
- **Eco-Education:** Conduct eco-lessons, conferences, round tables, public hearings, and other activities to raise environmental awareness.
- **Planting:** Plant medicinal, rare, and perennial plants, primarily trees.
- **Biodiversity Conservation:** Protect local flora and fauna, including species listed in the Red Book.

The Green Lagoon project aims to preserve and restore the unique natural ecosystems of Polissya. Nature conservation is a top priority, focusing on forests, wetlands, and water resources. Reclamation efforts include converting unauthorized dumpsites into parks, reducing human impact on the environment. Educational activities, such as eco-lessons and public hearings, aim to raise environmental awareness among residents. Special attention is given to planting medicinal, rare, and perennial plants, especially trees, to preserve the region's biodiversity.

## Key Activities

1. **Tree Planting:** Residents of the three settlements regularly plant and care for trees.
2. **Combating Unauthorized Water Withdrawal:** Ecopolis Granidub actively addresses issues of illegal water extraction and wetland drainage, working with local and regional authorities.

- Reclamation and Restoration:** Elimination of dumpsites and their conversion into parks, such as Maksymivka Park, created on the site of a former landfill.
- Scientific Research:** Collaboration with scientists from Polissya National University, Zhytomyr State University named after Ivan Franko, and the Ukrainian Academy of Sciences for scientific research and ecosystem monitoring.

The project's key activities include regular tree planting by residents, helping to restore forests and reduce soil erosion. Ecopolis Granidub works to combat unauthorized water withdrawal and wetland drainage by collaborating with local and regional authorities. Reclamation efforts transform dumpsites into parks, like Maksymivka Park. Scientific collaboration with universities and research institutions supports ecosystem monitoring and the implementation of scientifically grounded conservation measures.

## Partnerships and Collaboration

The Green Lagoon project exemplifies close cooperation between settlements, scientific institutions, governmental bodies, and NGOs. Key partners include:

- Brokivska Village Council:** The local self-government body officially managing the reserve.
- Polissya National University:** Conducts scientific research and monitoring.
- Zhytomyr State University named after Ivan Franko:** Conducts eco-educational activities.
- Ukrainian Academy of Sciences:** Provides sci-

entific recommendations for biodiversity conservation.

- Local Communities:** Residents of the three settlements actively participate in all activities aimed at preserving and restoring nature.

The Green Lagoon project brings together various partners to achieve a common goal—preserving and restoring the natural resources of Polissya. The Brokivska Village Council provides administrative support, while Polissya National University and Zhytomyr State University conduct scientific research and eco-educational activities. The Ukrainian Academy of Sciences offers scientific recommendations for biodiversity conservation. Active participation by local communities ensures the project's successful implementation.

## Challenges and Solutions

- Pollution and Unauthorized Logging:** Active information campaigns and reclamation of polluted areas.
- Hydrological Balance Change:** Collaboration with scientists and authorities to develop and implement measures to restore the natural water balance.
- Wetland Conservation:** Regular monitoring of wetlands and the implementation of measures for their preservation and restoration.

The project faces challenges such as pollution and unauthorized logging. To address these issues, information campaigns and reclamation of polluted areas are conducted. Changes in the hydrological balance of rivers and wetlands require close coop-



<https://www.youtube.com/watch?v=lr2Xx-occeQceQ>

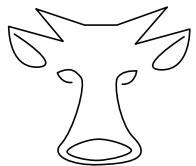
eration with scientists and authorities to develop effective restoration measures. Regular monitoring and conservation efforts for wetlands help preserve these unique ecosystems.

## Conclusion

The Green Lagoon project is a successful example of collaboration among local communities, scientific institutions, and governmental bodies in the field of natural resource conservation and restoration. Joint efforts help preserve the unique ecosystems of Polissya and ensure a sustainable future for the next generations.

The Green Lagoon project demonstrates how joint efforts by communities, scientific institutions, and governmental bodies can effectively address natural resource conservation and restoration. Through the active involvement of local residents, scientists, and authorities, unique ecosystems of Polissya are preserved, ensuring a sustainable future for upcoming generations. This project is a significant step towards achieving environmental sustainability.

# Project “Bhumy” in Ukraine: A Cow- Centered Sustainable Development Model



The “Bhumy” project, located in the frontline settlement of Bhumy in Mykolaiv Oblast, combines two key processes: land regeneration and sustainable community development through the grazing of rescued cows. Founded in 2007, the project’s initial goals were to rescue cows and restore the land, which are deeply interconnected. Nearby is the Oleshky Sands, which expands by 10 km annually, making our project particularly crucial for restoring the region’s ecosystem.



## The Principle of Ahimsa

The principle of “Ahimsa” (Sanskrit for “nonviolence”) is the cornerstone of the “Bhumy” project’s philosophy. This ethical principle dictates that cows, bulls, and their calves should never be killed and can live their full lives.

At “Bhumy,” we utilize technologies described in Sanskrit texts, focusing on the idea that cows, bulls, and calves live as long as they can. This approach transforms the emotional state of love into action. By implementing this principle, subconscious conflicts associated with love and violence disappear, making the world appear more orderly and understandable. Over the past ten years, these technologies have helped solve many social problems in our community, sometimes in ways that seem almost mystical.

## Land Regeneration

The 300 hectares of land under our protection are divided into 150 hectares of pasture and 150 hectares of orchards and farmland. Cow manure is used as a valuable organic fertilizer, significantly improving soil fertility.

At “Bhumy,” we distribute manure mixed with straw across various plots, which transforms into humus over 1.5-2 years. This process greatly enhances the biological, physical, and chemical properties of the soil, creating a fertile top layer that supports healthy plant growth. Large hooved animals help aerate the soil, improving its structure and enriching it with microbiota. On restored land, we plant multi-tiered vegetation, promoting stable ecosystem development.

This approach allows us to quickly and effectively restore large areas of land, providing essential nutrients and improving soil quality.

## Sustainable Community Development Model

The “Bhumy” project employs a cow-centered sustainable development model based on the principles of Ahimsa:

- Lifecycle of Cows: Cows, bulls, and calves live their full lives and are not sold for slaughter or relocated to other farms.
- Distribution of Dairy Products: Dairy cows are distributed among neighboring households, while newborn calves remain under “Bhumy’s” care.
- Animal Health Maintenance: Cows receive the necessary care, ensuring their health and longevity.

All cows were rescued thanks to donations from concerned individuals, effectively giving them a second life. These animals, once destined for slaughter, now play a vital role in soil restoration and ecosystem support. We have created infrastructure that ensures the comfortable life of cows, bulls, and calves. They are divided into six groups: young calves, mature calves, bulls, young cows, dairy cows, and elderly cows, allowing for tailored care for each group based on their needs and characteristics.

## Infrastructure

The infrastructure of the “Bhumy” project is designed with the principle of Ahimsa in mind, ensuring comfortable living conditions for cows.

Our settlement “Bhumy” is built on principles that guarantee cows the opportunity to live full lives. Calves are carefully milked for the first six months, laying the foundation for their health. In line with Ahimsa, we do not kill or sell sick cows, making them healthier than those on other farms. This creates a harmonious environment for both animals and people.

## Non-Violent Production

The “Bhumy” project practices non-violence not only towards cows but also towards people and other animals.

Our apiaries collect only surplus honey, leaving bees enough for the winter. This ensures the natural life of bees without disturbing them. We apply non-violent methods to other aspects of our production, creating a harmonious environment for all living beings in the community.

## Ghee Production

Ghee, a traditional Indian dairy product, is an important part of our project. We use ancient recipes that allow ghee to be stored for years, enhancing its medicinal properties.

Ghee produced using these recipes retains metaphysical properties that positively impact health. We conduct experiments on ghee production based on sacred Indian texts, allowing us to find the best recipes for handmade ghee. This product, made with love and care, possesses not only physical but also metaphysical properties, making it particularly valuable for health.



## Conclusion

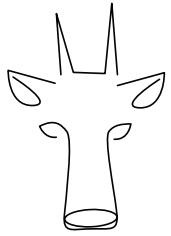
The “Bhumy” project combines land regeneration and sustainable community development through the grazing of rescued cows. The principle of Ahimsa, at the core of our philosophy, promotes the harmonious development of both the land and the community, creating an ecologically sustainable model that can serve as an example for other regions. Our approach allows us to quickly and effectively restore large areas of land, providing essential nutrients and creating comfortable living conditions for cows. Thanks to the support of caring individuals, we have been able to rescue these animals from slaughter and give them a second life, making our project even more significant and successful.

This project also resonates deeply with the “Holistic Planned Grazing Management for Biodiversity Restoration” project at the research farm “Pidkova” of the “Hlyboki Baliki” ecostation in Kyiv Oblast. Both projects demonstrate how grazing large hoofed animals can significantly restore ecosystems and improve the fertility of degraded soils.



# Holistic Planned Grazing Management for Biodiversity Restoration: Experience from the Podkova Research Farm at the Hlyboki Balyky Ecostation

**Bohdan Popov**



## Personal Motivation

My interest in the impact of grazing animals on natural ecosystems began over 20 years ago in Zakarpattia. Observing traditional shepherding, I realized that grazing could restore biodiversity. This interest grew into a professional endeavor when I joined the Hlyboki Balyky ecological research station near Kyiv four years ago. Inspired by Allan Savory's Holistic Planned Grazing system, I am now working to implement these methods in Ukraine to improve ecosystems and people's lives.



## **Project Objective**

The project's goal is to create a sustainable farming model aimed at restoring biodiversity in degraded Forest-Steppe ecosystems through holistic planned grazing management. Key outcomes include:

- Increasing soil carbon content.
- Reducing invasive species.
- Enhancing the quality of life for farm workers.
- Creating a tourism product based on livestock farming.
- Combining eco-services with meat-dairy production.
- Establishing an educational process.

## **Progress, History, and Experience**

### **Location and Description**

The Podkova project is situated on a 5-hectare site in the Rzhyshchiv community of Kyiv region, donated by patrons Olha and Marian Andrusenko. The area features a highly dissected terrain with low biodiversity due to past intensive farming and overgrazing.

### **Principles of Holistic Planned Grazing Management**

The approach involves ensuring animals do not stay too long in one place or return too soon, promoting effective water and nutrient cycles while preventing overgrazing. Key practices include:

- Non-selective grazing: Animals evenly graze all plant types, including invasive species.
- High herd density: Short grazing periods with long recovery times for the land.
- Electric fencing: Combines stationary and mobile fences to manage grazing areas.

### **Key Work Stages**

1. Biodiversity Monitoring: Established in 2020 with geobotanist-led monitoring plots.
2. Grazing Implementation: Introduced a herd of 20 goats in 2021, with grazing resumed in spring 2023.
3. Electric Fencing Infrastructure: Set up a combination of stationary and mobile electric fences for effective grazing management.
4. Scientific Collaboration: Partnered with experts like Andriy Masliuk to improve breeding and grazing practices.

### **Current Results and Upcoming Tasks**

- Positive Outcomes: Reduction in invasive species and development of an effective electric fencing system.
- Future Plans: Continued biodiversity monitoring, further refinement of grazing management, and expansion of educational and tourism initiatives.

## Prospects and Dissemination

The project aims to generalize and analyze the model for broader application in Ukraine. This involves integrating animals into existing farms or using them to manage previously uncontrolled lands. Future plans include:

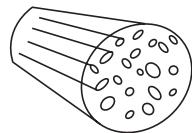
- Improving Efficiency: Optimizing grazing pressure and reducing labor and energy costs.
- Educational Outreach: Conducting training and promoting tourism products to disseminate knowledge.

## Appendices, Publications, Contacts, Social Media

- “Biodiversity of the Rzhyshchiv Territorial Community,” Volumes 1 and 2.
- Allan Savory, Jody Butterfield, “Holistic Management, Third Edition.”
- Facebook: <https://www.facebook.com/theHB-station>.
- XII International Scientific Conference “Biodiversity and the Role of Animals in Ecosystems” abstracts, Dnipro, Ukraine, November 2023.



# Bee Houses for Solitary Osmia Bees in the Rosy Ecovillage



Ladomir Soroka is actively promoting and spreading beneficial insect farms for pollinating gardens and restoring ecosystems in the Rosi eco-settlement. One of his most popular projects is the bee houses for Osmia bees (Osmia Cornuta). Ladomir and his family are dedicated to breeding these early bees, helping them spread in settlements and increasing biodiversity in depleted soils.

## Features of Osmia Bee Houses

The Osmia bee houses have become an essential element in educational activities focused on regeneration and biodiversity enhancement. Each family receiving a bee house gets an instruction guide that explains the basics of caring for these insects.

## Handling Guide for Osmia Bees

### Welcome Message:

Welcome to your new little friends! These tips are best suited for beginners who want to keep Osmia bees and create good conditions for them. For professional breeding, there are slightly different requirements,



but this information will be enough for you. These little helpers have always lived in large numbers near humans, in reed roofs and cozy reed bundles.

## Instructions:

### 1. Preparing the Bee House:

- Remove the tape from the box with cocoons before hanging the set.
- Hang the bee house under the eaves on the south side of a building to protect it from rain and birds. It can also be hung in a sunny spot.

### 2. Caring for Osmia Bees:

- Osmia bees are spring fruit pollinators. About 1.5 – 2 months after the season starts, they will lay offspring in the tubes, seal them with soil, and “disappear.”
- They make compartments with soil partitions in the reed tubes, where they deposit eggs that develop until spring. By the end of the Osmia flight season (early May), they will fill the tubes with cocoons and seal them with soil.
- The number of Osmia bees will increase each year if you add new reed tubes and control their natural regulators.

### 3. Other Beneficial Insects:

- Nature may also introduce other beneficial insects, such as leafcutter bees, jewel wasps, and various parasitoid wasps. The more diverse the insect population, the better for your environment.

### 4. Overwintering:

- Osmia bees overwinter outside in a dry, sheltered place. They are not afraid of frost but can be

stored in a cold room if there is a risk of soaking or bird attacks.

### 5. Safety:

- Osmia bees are friendly and safe for children, adults, pets, and honeybees. They do not sting and coexist peacefully with other bees.

### 6. Breeding:

- To breed more Osmia bees, cut reed tubes with a diameter up to 12 mm and a length of 17 – 25 cm, and hang them under a canopy.

### 7. Additional Information:

- Learn more about Osmia bees and the wonderful world of beneficial insects on the Internet. Osmia bees are an integral part of the ecosystem, contributing to its harmony and biodiversity.

Ladomir Soroka believes that Osmia bees and other beneficial insects play a crucial role in maintaining the ecosystem. Their gentle behavior and safety make them excellent helpers in the garden, enhancing productivity. Osmia bee houses are not only a useful tool for gardeners but also a wonderful way to teach children and adults to appreciate nature and its inhabitants.

Thanks to projects like the Osmia bee houses, the Rosi eco-settlement makes a significant contribution to the restoration and preservation of ecosystems. Ladomir Soroka and his family are a shining example of how small steps can have a big impact on our planet.

Site: <https://osmii.tilda.ws>

Telegram: <https://t.me/uaosmii>



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# Power Banks for Routers by Ecovillage Velesvit: Solving Blackout Challenges



## A Crucial Step Towards Stable Communication in Times of Energy Crisis

Currently, Ukraine faces significant challenges with electricity. In many regions, especially in rural areas, power outages last from 12 to 16 hours a day. This creates numerous problems, with connectivity and internet access being among the most critical. Communication is essential for our network of settlements and villages, which are spread over large distances.



To address this issue cost-effectively, we developed our own prototype of an affordable and efficient power bank for routers at our bicycle workshops. This device can power our routers, enabling regular work and co-ordination calls between network activists.

Dmytro Draganchuk, an electrical engineer and displaced person from Crimea, began developing batteries for electric bikes when one of our workshops was launched. With the support of the Velesvit ecovillage community and grant support from the PUT Ukraine network, he established his workshop and started actively working on batteries.

The result of his work is a power bank for routers, media converters, and USB device charging. The power bank is equipped with a 5A Li-ion battery at 12V, providing a total energy capacity of 60W. It has two independent regulated stabilized output voltage channels that allow powering two devices with different voltage requirements. These channels can be adjusted to any voltage from 3V to 22V. By default, the channels are set to 12V and 9V to power a media converter and a medium-sized router. The stabilizers have a power of 3A each.

Additionally, the power bank is equipped with a 1A USB charger for charging USB devices or powering a 4G router. A 5.5x2.1 charging socket provides unregulated 12V power for LED strips. The battery is controlled by a 40A BMS board, which prevents over-discharge and overcharge, protects the battery from short circuits, and balances the cells.

The power bank operates at an internal voltage of 12V, allowing much faster battery charging. With a



2 A charger, the power bank charges to 95 % in approximately 3 hours. Charging to 100 % can take up to 6 hours due to the low-current balancing of the cells in the last 5 %. In operation, the power bank requires no user action. When powered by a 220 V mains supply, the charging current is sufficient to power connected devices and charge the battery simultaneously. In the absence of mains voltage, the devices are powered by the battery. The power bank can run for about 8 hours on a single charge with a load of an ONU + medium router.

The cost of the device is approximately 1550 UAH. Now, after final testing, these devices will be distributed to our eco-settlements to solve connectivity and blackout issues.

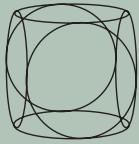
Moreover, this router power bank will be presented at the EXPO in Sweden at the European Ecovillage Gathering. This project is a prime example of how a community can come together to solve urgent problems and create solutions that improve the quality of life even in the most challenging times.

## Thank You to Our Donors

We extend our heartfelt gratitude to our donors for their support in the @Giveth(<https://github.com/Giveth>) in Give-Earth round. Your contributions have made it possible for us to develop and deploy these essential power banks, ensuring that our communities stay connected and resilient. Thank you for being a part of our journey and for helping us build a more sustainable and connected future







2024



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GLOBAL  
ECOVILLAGE  
NETWORK

Design by Inna Syvak