



NORDIC WALKING FOR CLEAN ENVIRONMENT

Project 101184318 - NW ECO

PROGRAM GUIDE

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1. INTRODUCTION

Project No. 101184318 — "Nordic Walking for a Clean Environment (NW ECO)", funded under the Erasmus+ Sport program, is an innovative European initiative in the field of sports recreation and environmental protection. By combining outdoor physical activity through Nordic walking with empathy for nature, the project introduces a model for sustainable and healthy behaviour that engages local communities, sports clubs and non-governmental organizations in the fight against climate change.

"Nordic Walking for a Clean Environment (NW ECO)" promotes mass sports, active lifestyles and sustainable habits among participants of all ages - children, youth, adults and people with disabilities. The project stimulates intergenerational solidarity and develops civic responsibility through direct participation in activities to protect the natural environment.

Physical activity has proven benefits for people's health and well-being. Especially in the post-pandemic context of COVID-19, when movement levels among the population have dropped dramatically, there has been an urgent need to restore and stimulate an active lifestyle. Nordic walking is an excellent form of moderate and accessible activity that combines movement, rhythm and coordination, engaging almost all muscle groups and sparing the joints. At the same time, it is ideal for outdoor activities, in direct contact with nature, where ecological actions also take place.

At the same time, the world is facing serious environmental challenges – plastic pollution, biodiversity loss and a growing carbon footprint. Millions of tons of waste are being produced annually, and the effects of climate change can be felt in every region. The NW ECO project seeks to connect health and nature by introducing the practice of waste collection and environmental monitoring during physical activity through Nordic walking.

The main aim:

To increase the capacity of sports clubs from the partner countries (Croatia, Bulgaria and Slovenia) to organize sustainable and effective activities through Nordic walking and environmental actions, promoting a healthy lifestyle, social inclusion and active participation and engagement with environmental protection. In this way NW ECO will:

- Raise awareness about the role of non-profit sports clubs as key structures in the local sports ecosystem.
- > Strengthen the capacity of staff and volunteers in organizing environmentally oriented activities through Nordic walking.
- ➤ Improve the health and well-being of participants through participation in physical activities combined with a contribution to nature conservation.
- ➤ Build a network for cooperation between sports, environmental and civic organizations at local and international levels, to share good practices and sustainable working models.

Target groups

The project is targeting:

- representatives of non-profit sports clubs managers, coaches and volunteers.
- > children, youth and their families, including people with disabilities.
- > local communities and stakeholders involved in health, sports and ecology topics.

Integrated activities

The project includes the development and implementation of:

- ➤ NW ECO program an innovative methodology for conducting Nordic walking in combination with environmental activities.
- > capacity training for sports clubs.
- ➤ local sporting events combining activity and cleaning of natural areas.
- > an electronic platform for training and communication aimed at digital transition and the development of "green skills."
- > public campaigns and information materials to raise awareness and disseminate results.

2. NW ECO: AN INNOVATIVE METHODOLOGY FOR NORDIC WALKING WITH AN ECOLOGICAL FOCUS

WHAT IS NORDIC WALKING WITH AN ECOLOGICAL FOCUS?



Fig.1 Nordic Walking

Source: Deutscher Turner-Bund - https://www.dtb.de/gesundheit/standardisierte-programme/nordic-walking

Nordic Walking is a form of aerobic physical activity that involves the use of special poles, like those used for skiing, to activate the upper body while walking. Although it originated in the context of cross-country skiing training in Finland in the 1930s, Nordic Walking has gained widespread popularity in recent decades as an accessible and effective form of recreational activity for people of all ages (Tschentscher et al., 2013).

In 1979, Finnish ski coach Mauri Repsu and physiotherapist Lenny Jurkinen developed a more systematic approach to the use of walking poles, but it was not until the 1980s that Nordic walking began to take shape as a separate sports and recreational discipline. In 1997, it was officially introduced to the public in Finland as a new sport, with the active participation of the Finnish Sports Association and the company Exel Oy, a leading manufacturer of sports poles. That same year, the term "Nordic Walking" was used for the first time in an advertising campaign by Exel, which contributed significantly to the popularisation of the discipline.

The development and establishment of Nordic walking as an independent sporting activity is also linked to the improvement of pole design. The creation of lightweight, ergonomic poles with special straps that allow effective push-off from the ground makes it possible to practice this sport all year round, both in urban and natural environments.

In the 2000s, Nordic walking began to spread beyond the Scandinavian countries. Germany was one of the first European countries to embrace the new sport with enthusiasm, while several training programs for instructors started to be developed and implemented.

National and international organizations emerged, such as INWA (International Nordic Walking Federation), founded in 2000, which played a key role in standardizing the technique and promoting Nordic walking worldwide.

As a form of recreation, Nordic walking has a high degree of accessibility, flexibility in adapting to different physical capabilities and environmental conditions, as well as the opportunity for social interaction. It can be practiced both individually and in a group environment, making it an effective means of improving not only physical but also psychosocial well-being.

From a public health perspective, Nordic walking plays an important role in the prevention and therapeutic support of a wide range of chronic diseases – hypertension, type 2 diabetes, osteoporosis, depressive states, etc. (Lee & Park, 2020). In addition, outdoor practice promotes contact with nature, reduces stress and contributes to overall environmental awareness, especially when integrated with activities such as natural area cleanups and educational initiatives, as is the approach within the NW ECO program.

Nordic walking is establishing itself as an innovative approach in the field of physical culture and health prevention – simultaneously effective, gentle and motivating. As a joint action between sport, health and recreation, it offers a sustainable model for an active lifestyle in the conditions of modern urban society.

Currently, Nordic walking is practiced by millions of people of all age groups, both for recreational and therapeutic purposes, and is recognized as one of the most accessible and effective forms of physical activity in modern society.

Today, while walking or exercising in nature, it is not uncommon to come across waste – plastic bottles, packaging, cigarette butts or other unwanted trash that detracts from the landscape and harms the environment. This disrupts not only the aesthetics of the route, but also our sense of connection with nature.

NW ECO is an innovative practice that combines physical activity with conscious environmental actions. Unlike traditional plogging, which combines running with cleaning, here the motor activity is adapted to the use of Nordic walking poles, making it more accessible to people of all ages and physical abilities. Participants not only perform effective motor activity, but also collect waste, enjoy the nature and act as ambassadors of sustainability.

PROGRAM OBJECTIVE

The goal of the program is to create a sustainable practice of combining Nordic walking with environmental actions (cleaning, education, planting) that promotes:

- > physical activity for all ages.
- > environmental care.
- > social inclusion and volunteering.
- > local engagement and environmental education.

2.1. Physical activity for all ages through NW ECO

The World Health Organization (WHO) clearly emphasizes that regular movement contributes to the prevention of several chronic diseases, improves mental health, supports social inclusion and increases quality of life. The NW ECO program uses Nordic walking as a universal, accessible and adaptable form of physical activity, suitable for children, youth, adults and the elderly.

Nordic walking is an accessible, effective and scientifically proven method of increasing physical activity by engaging the whole body. The use of specialized poles not only increases the intensity of the exercise, but also improves balance, coordination and motor control. To fully realize the benefits of this practice, it is necessary to master the basic techniques.

In Nordic walking, poles allow the body to move forward, and during locomotion, most muscle groups take part. An analysis of muscle activity has found that up to 90% of the body's muscles are involved, compared to only 45% during normal walking (Volodina et al., 2016). According to Klaus Schwanbeck, it is the use of poles in Nordic walking that can provide better posture, balance and stability and help improve gait.

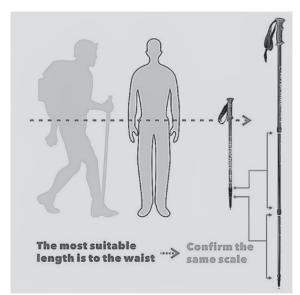
This type of walking engages more than 600 of the body's muscles compared to normal walking (Sturm et al., 2012), which leads to a high energy expenditure. From a physiological point of view, Nordic walking thus increases energy expenditure compared to conventional walking, without excessively straining the body (Morat et al., 2017).

According to a study by Italian scientists, Nordic walking should be performed with the correct technique, which allows for a higher metabolic intensity and overall higher muscle activation. They concluded that any deviation from the usually suggested technique for Nordic walking may lead to lower benefits. However, it is worth noting that any technique of walking with poles induces higher metabolic responses and muscle activation than conventional walking. Thanks to its technique, Nordic walking has improved biomechanical characteristics, effects on balance and coordination of the body compared to conventional walking (Pellegrini et al., 2018).

Nordic walking equipment and supplies include:

- > poles.
- > special shoes for running or hiking.
- > comfortable sportswear according to the season.

Poles are the most important part of the equipment. They are telescopic, made of different materials, the most suitable being those made of carbon fibre. The length of the



poles should be selected individually, for this purpose the height of the person is multiplied by a factor of 0.7, which gives the required height of the poles. When the hand grabs the pole, the elbow joint should form 90° (Fig. 2)

Fig.2 Choosing the length of poles

- The shorter length is preferable for beginner athletes and people with contraindications to increased load on the spine.
- Longer poles put more strain on the arms and back, so they are better for workouts that focus on the shoulder girdle and upper limbs.

Determining the correct length of poles is important because it can lead to excessive strain on the knees, ankles and back. Each pole has a hand attachment - a strap. This is necessary because in the final phase of the step the palm must open without dropping the pole.

Basic principles of movement

The technique of Nordic walking builds on the natural gait by including active participation of the upper limbs. It is quite simple, as it is based on natural movements such as brisk walking and skiing. When mastering the technique, it is important to observe the correct rhythm and trajectory of the movement of the arms and legs. The main thing is that the movement is natural, the back is straight, the shoulders and arms are relaxed.

The movement process consists of several phases:

- First push off with the pole from the ground: at this moment the muscles of the hand and forearm are involved. The tip of the pole should be in front of the foot, the hands should be in front of the body an angle of 45 degrees should be formed between the pole and the ground. The handle is gripped in the palm of the hand.
- ➤ The tip of the stick remains in place, but the overall movement of the body causes the centre of gravity to shift along with the stick. At this point, the palm should open.
- > The stick is behind, the arm becomes straight, forming one line with the pole. The palm is in a fully open position.
- ➤ After the cue ball bounces off the ground, it returns to its original position the process repeats.

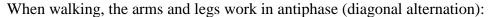




Fig. 3 Nordic walking technique

- ➤ Diagonal alternation of arms and legs when the right leg moves forward, the left arm is also moved forward (and vice versa), maintaining the natural rhythm of walking.
- ➤ Active push-off with the poles, not passive support with each step, the pole is driven back at an angle and assists movement through dynamic push-off.
- > Free and rhythmic movement of the shoulders, which ensures the involvement of the muscles of the back and upper body.
- ➤ A stable and smooth step from heel to toe, without bouncing, with a natural length and pace, tailored to individual capabilities.

The NW ECO program recommends using a physiological, economical walking style, avoiding exaggerated swings and unnatural movements.

Effective technique begins with a correct starting position, which provides stability, prevents injuries, and prepares the body for synchronized movement. The main components of the stance are (Fig. 3):

- > Straight back and neutral pelvic position, no hunching or excessive arching.
- > Relaxed shoulders, slightly back, no tension in the upper body.
- ➤ **Looking forward**, about 10–15 meters in front of the body improves balance and breathing.
- **The poles are angled back**, close to the body, without vertical placement.
- **The arms are relaxed,** the elbows slightly bent, ready to swing and move.

The starting position is not static - it is an active preparation for movement and is practiced in the initial phases of training through visual feedback and mirror guidance.

The core of the technique is in the correct coordination between the limbs and the poles, which is based on the following principles:

- ➤ *Diagonal movement* alternating opposite limbs (right arm and left leg, and vice versa).
- ➤ **Push-off at an angle of ~60°** the stick is driven diagonally back and is used for propulsion, not support.
- > Smooth step from heel to toe, to achieve optimal energy transfer;
- ➤ Activation of over 90% of the muscles including the shoulder girdle, back, arms, abdominal wall and lower limbs.

This coordination is a prerequisite for increased energy efficiency and improved posture. The training includes specialized exercises for synchronization, rhythm and coordination, which are especially important in the initial stages.



Fig. 4 Muscle activation during Nordic walking

Source: Muziker sport - https://www.muziker.bg/blog/kak-da-izberem-stheki-za-severno-hodene

The correct grip is essential to technique and includes:

- ➤ Use of special straps (grip bracelets) that allow opening and closing the palm without losing control.
- ➤ Grip when pushing off, release when swinging back creates rhythm and spares the muscles of the hand and wrist.
- ➤ Alternating between tightening and relaxing, which activates the muscles of the shoulders, back and torso, without unnecessary tension. Grip technique is mastered through repeated practice and individual strap adjustment. Participants are taught to recognize the sensation of "rocking" and elastic movement, which makes the gait smooth and energy efficient.



Fig. 5 Grip technique in Nordic walkingSource: Bristol Nordic Walking - https://bristolnordicwalking.co.uk/

Nordic walking rules

At the beginning of the workout, a five-minute warm-up is performed to prepare the body for the upcoming loads, and at the end of the workout, several gymnastic exercises are included to stretch the stressed muscles and relax them.



Source: Nordic Walk Store - https://www.nordicwalk.store/

- Matching the rhythm of breathing with the steps. Breathing should be natural, but it is important that it is physiologically correct: inhale pause exhale pause. For example, four steps inhale, one pause, four steps exhale, one pause.
- ➤ The walking pace and the length of the distance are selected in accordance with the physiological state of the body. There are simple tests to determine the correct pace:
- if there is sufficient nasal breathing, the load is normal.
- if mouth breathing is on, the load is excessive.
- if one speaks while performing movements, the load is normal.
- If you are out of breath while talking, you should walk more slowly.
- ➤ Do Nordic walking regularly, starting with 20-30 minutes a day and gradually increasing both the distance travelled and the walking speed.

Benefits of Nordic Walking



- Nordic walking is more intense than conventional walking (by about 50%) and has a high energy expenditure of 700 kcal/h, but the load on the joints of the lower extremities and the spine is less.
- ➤ 90% of the body's muscles are involved in the movement.
- ➤ In the cardiovascular system, overall hemodynamic and microcirculation improve, the myocardium strengthens, and regular training reduces resting heart rate and blood pressure.
- > The work of the respiratory system is optimized, improving the functional capacity of the lungs and oxygen saturation, and hence the strength and endurance of the body.
- ➤ The body's aerobic capacity (VO₂ max) improves.
- The mobility of the joints of the spine, upper and lower extremities improve.
- Chronic pain in the neck, shoulder girdle, back and spine is reduced.



Fig. 7 Muscle activation in percentages during Nordic walking, running and cycling Source: Nordic Walking Tours - https://nordicwalkingtours.cz/

Mastering the basics of Nordic walking requires a methodical approach that includes structured training, visual control and individual adjustments. With proper posture, coordinated movement and optimal use of poles, participants in the NW ECO program achieve high efficiency, reduced risk of injuries and lasting motor culture. These foundations are not only a prerequisite for health and endurance, but also a basic tool for the practical application of environmentally committed Nordic walking.

Adapting Nordic Walking to Age and Ability

The World Health Organization (WHO) emphasizes the importance of regular physical activity as a foundation for good health and quality of life. Nordic Walking is a universal, accessible and effective form of moderate-intensity aerobic exercise that can be practiced by people of all ages and physical abilities.

The NW ECO program builds on standard physical activity by integrating environmental actions – waste collection, nature observation, participation in greening – thus contributing simultaneously to human health and the well-being of the planet.

NW ECO is a universal activity that can be adapted to:

> Children and youth (5-17 years): The technique is presented in the form of a game. Ecochallenges and teamwork tasks are included. The pace is dynamic, but age appropriate.

Strength and coordination exercises using poles and outdoor games are also added to the activities. Nordic walking with moderate to high-intensity physical activity is an excellent choice for a complex activity, as it combines movement, learning and outdoor play.

- ➤ Adults and working people (18-64 years): Classes are held at a convenient time and include both physical activity and an element of relaxation and socialization. Nordic walking with an ecological element ensures high engagement and sustainable adherence to an active lifestyle. Additional benefits are achieved through balance exercises, technique and light strength elements included in the training sessions. Participation in ecological activities increases the sense of meaning and belonging.
- ➤ Seniors (65+ years): The pace is adapted; the routes are shorter and with minimal inclines. Frequent breaks, hydration and constant supervision by instructors are planned. Light exercises for balance and stability are added in combination with moderate physical activity to strengthen the muscles.
- > **Sports clubs:** Can offer programs of varying intensity from beginner to advanced levels, with clearly defined age and physical capacity groups. This way, sustainable habits are built, and the community of active people expands.



Fig. 8 Effects of Nordic walking

Source: Azimut - Running and Orienteering Academy https://azimutrunners.wordpress.com

Inclusion of vulnerable groups

NW ECO includes special adaptations for people with disabilities, chronic illnesses or social difficulties:

- Individual routes with lower workload, tailored to the health condition of the participants.
- > Specially trained accompanying instructors or assistants.

- > Sensory and linguistic accessibility. Visual and audio cues, simple and understandable instructions, graphic materials and sign language are used when necessary.
- Eco-tasks tailored to the physical capabilities of the participants (e.g. waste sorting).
- > Social support and building an inclusive environment through group work, promoting social engagement, self-esteem and mutual assistance.
- A stimulating atmosphere of trust, solidarity and mutual assistance that allows each participant to feel respected and motivated.



Fig.9 Integration of vulnerable groups through ECO Nordic Walking Source: RehaFit - https://rehafit-meitingen.de/

The integration of people with disabilities into NW ECO initiatives is not just a matter of access to physical activity – it is a matter of social justice, sustainability and active civic engagement. In the spirit of universal design and inclusive sport, ECO Nordic Walking offers excellent opportunities for participation for people with different levels of functional abilities, by implementing adapted approaches and a supportive environment.

NW ECO shows that movement is not an end in itself, but a tool for health, communication and sustainability. Regular physical activity, especially in an ecological context, contributes to a better societal and individual future.

2.2. Adaptation of technology to the environmental goals of NW ECO

One of the key innovations of the NW ECO program is the integration of an environmental commitment within the core motor activity – Nordic walking. In order to achieve an effective symbiosis between physical activity and sustainable behaviour, a conscious adaptation of the technique is required. This allows participants to perform environmental actions – such as collecting waste and enjoying the nature and the environment – without compromising the rhythm, safety or physiological value of the movement.



Source: Kickstarter - https://www.kickstarter.com/

Functional modifications of the technique

The adaptations do not require a significant change to the basic technique, but rather the conscious introduction of new elements that complement the movement with an ecological focus:

- ➤ Integrated breaks for observation and action. At certain time intervals (for example, every 10–15 minutes), participants take short breaks to visually inspect the terrain. During these breaks, the discovery of litter, traces of disturbed biodiversity, or other signs of pollution is stimulated. This approach builds habits of conscious behaviour in nature and helps to form ecological sensitivity.
- **Biomechanics of bending and picking up waste.** To avoid overstrain of the spine and lower extremities, it is recommended to use the following technique when bending:
- slight bending at the knees.
- tilt from the pelvis with a straight back.
- avoiding sudden squats or twisting of the torso.

Waste collection is carried out using gloves and – if possible – with tongs or grippers that allow reaching objects without direct contact with contaminated surfaces.

- ➤ Appropriate equipment for ecological activities. Participants are provided with light and comfortable accessories that do not disturb balance during movement:
- gloves made of durable material for multiple uses;
- textile or biodegradable bags;
- a belt or small backpack with a fastener (carabiner) for a sack or clip.

The goal is to make the necessary tools easily accessible without hindering the basic rhythm of walking.

- Framporary work with one stick. When one hand needs to be used for an environmental action (e.g. collecting waste), the second stick is temporarily:
- attaches via shoulder strap, backpack or belt.
- placed under the armpit.
- hold with the other hand in a horizontal position.



This transitional mode allows rapid adaptation to circumstances without completely stopping walking or losing balance. After the action is completed, the technique is restored without interruption of activity.

Fig. 11 Equipped poles with bag for ECO Nordic walking

Source: Kickstarter - https://www.kickstarter.com/

Training integration of adapted technique

The adapted techniques are introduced in the early stages of the NW ECO program. They are part of a specialized module that includes:

- > safe bending exercises.
- > one-handed work and stick holding exercises.
- > simulations of waste collection and sorting on the move.
- instructions on using equipment and maintaining rhythm.

These exercises ensure that the ecological component is not externally added but organically tied into the overall motor activity.

The adaptation of the technique to the environmental goals of NW ECO represents an integrative approach that transforms physical activity into a means of environmental education and action. This combination of health, movement and environmental care is the core of the program and an example of the sustainable application of sport for the benefit of society.

3. Environmental initiatives related to environmental care

ECO Nordic Walking is not only a form of physical activity, but also an active ecological behaviour. It combines a healthy lifestyle with a commitment to nature through concrete actions that contribute to a cleaner and more sustainable environment.

The following key environmental initiatives are integrated within the NW ECO program:

➤ Waste collection. Nordic walking is the core of the environmental component in NW ECO. Participants clean up polluted areas of nature or the urban environment while practicing Nordic walking. Each route becomes a mission – to leave it cleaner than it was found.

Application examples:

- Distribution of gloves and biodegradable bags before departure.
- Organizing "Who will collect more?" competitions in a team format.
- Involving youth clubs and schools in cleaning campaigns near parks and forest trails.
- ➤ Separate collection and recording of volumes. In order for environmental activities to be effective, collected waste is sorted paper, plastic, glass, metal and mixed. Systematic recording of collected quantities has two main purposes: measuring impact and promoting responsibility.

Application examples:

- Using mobile apps or spreadsheets to record volumes by waste type.
- Placing thematic "eco points" with containers for separate collection at terminal points.
- Organizing reporting days where the achieved results are presented to the community.
- ➤ Planting trees and plants along the route. Planting actions complement the ecological impact of NW ECO, leaving a long-term footprint. The activity is carried out after identifying suitable areas, often in collaboration with local forest services or eco-organizations.

Application examples:

- "Plant and Walk" events where the group first plants saplings, then follows a route with ecological tasks.
- Construction of "green paths" with marked sections for annual addition of plants.
- Dedication of trees in honour of environmental causes or historical events.
- ➤ Biodiversity Observation (iNaturalist). Incorporating citizen science elements such as the iNaturalist app allows participants to document plants, animals, and insects along the route. This increases engagement and provides an opportunity to learn about the local ecosystem.

Application examples:

- Introduction of "eco-observation sites" trees, nests, rare flowers.
- Conducting photo challenges to discover new species.
- Organizing training on how to use the application and how to recognize basic species.

The environmental initiatives within NW ECO turn every walk into an action with a cause.

They not only enrich physical activity, but also build values related to responsibility, cooperation and care for nature. Participation in such activities educates not only active citizens, but also environmentally sensitive individuals.

Organizing eco-initiatives while walking

Combining physical activity with environmental actions requires careful structuring of routes, equipment and pedagogical approaches that allow the physical process to flow naturally, without compromising the health and safety of the participants.



Fig. 12 Eco Nordic Walking

Source: Seven eight sport solutions - https://seveneight.es/en/plogging/

Inclusion of environmental cleaning during the route

- Participants are provided with lightweight, easy-to-wear eco-kits, including biodegradable bags, textile gloves, and tapes or backpacks for attaching waste.
- The poles retain their role as a motor stabilizer, while one hand is freed up when needed for ecological action.
- Instructors organize preliminary inspections of the routes and designate areas for inspection, collection and

reporting of pollution.

➤ Conscious observation of the environment is encouraged through short breaks, during which participants not only collect waste but also discuss what they see, assessing the ecological state of the terrain.

Adherence to sustainability principles

- ➤ The activities are carried out with minimal disturbance to the ecosystem without entering sensitive areas, without noise or visual pollution.
- ➤ Leave No Trace principles and education in the ethical use of natural resources are encouraged. To be sustainable and effective, environmental activities fit into the regular program of sports clubs in a way that maintains the motivation of participants.
- ➤ Weekly level: Incorporating short eco-components into regular routes e.g. 10 minutes for waste collection at the end of each workout.
- ➤ Monthly events: Organizing targeted actions for example, a "green challenge" to clean a certain route or a "green mission" to plant trees.

> Seasonal campaigns: Link to international and national initiatives such as Earth Day (April 22) or Mobility Week (September), which give visibility and create a sense of community.

NW ECO not only promotes a healthy lifestyle, but also has a social and environmental effect in the regions where it is implemented:

- > Strengthening civic participation: By collaborating with local authorities, schools, NGOs and sports clubs, sustainable partnerships are built.
- ➤ Increasing environmental culture: Participants become ambassadors of change, inspiring neighbours, families, and friends to engage in similar actions.
- ➤ Local contribution to global goals: The program contributes directly to the UN Sustainable Development Goals (SDGs), including Goal 3 (Health), Goal 11 (Sustainable Cities) and Goal 13 (Climate Action).

The ecological dimension of NW ECO transforms sports activity into a platform for social and environmental engagement. Through structured eco-initiatives, the practice of Nordic walking goes beyond personal health and becomes a tool for changing the environment and attitudes towards sustainable development. This model can be successfully integrated into the policies of sports organizations, schools and local authorities as part of the green transition in Europe.

2.4. Steps for organizing inclusive and environmentally committed activities through ECO Nordic Walking

Organizing inclusive and restorative activities through ECO Nordic Walking requires planning, sensitivity to the differences between participants, and integration of ecological values. The combination of physical activity, social engagement, and care for nature makes NW ECO a unique tool for creating healthy and sustainable communities. In this regard, we can outline the following basic steps for a successful organization:

- Assessment of the needs and interests of the target group.
- Conducting surveys, interviews, or observations to establish the preferences and capabilities of participants (e.g. level of physical activity, motivation, age characteristics).
- Considering the desire for environmental commitment participation in waste collection, planting, environmental causes.
- > Selection of inclusive routes and activities.
- Selecting tourist hiking routes that are of varying length and difficulty to meet the participants' abilities in implementing Nordic walking.
- Inclusion of activities such as group waste collection, environmental missions (biodiversity monitoring, marking polluted areas), stories about natural landmarks.
- Stimulating cooperation, sharing and collective responsibility.

- > Creating a supportive atmosphere.
- Training instructors and volunteers to work with vulnerable groups, people with disabilities and elderly participants.
- Stimulating respect, empathy, and inclusion through role-playing, sharing experiences and joint environmental tasks.
- Maintaining an informal and friendly atmosphere without competitive pressure.
- Adapting activities according to needs.
- Preparing short route options for a slower pace for people with reduced mobility.
- Providing alternative activities for people who cannot actively participate e.g. data recording, photography, keeping an eco-diary, etc.
- > Providing an accessible and safe environment.
- Choosing routes with good access for people with motor or sensory disabilities. Avoiding steep or risky sections.
- Providing markings, safe areas for rest and evacuation if necessary.
- Ensuring the availability of basic infrastructure toilets, water, medical care.

The safety and well-being of participants is a fundamental priority in the NW ECO program. Combining physical activity with specific environmental activities conducted outdoors requires clearly defined safety measures, adaptation to terrain and climatic conditions, as well as special attention to the inclusion of vulnerable groups. The methodological approach includes not only physical preparation, but also the formation of a culture of responsibility, support and prevention.

To ensure safety during practices, the following protocols are implemented in the program:

- ➤ Warm-up and stretching: Each class begin with warm-up exercises that activate blood circulation and prepare the muscles for exertion. It ends with stretching to improve flexibility and recovery.
- ➤ Movement technique: Training in proper technique when using poles reduces the risk of falls, overloads and joint problems. Particular attention is paid to the synchronicity of movement, grip and coordination.
- ➤ **Route selection and verification:** Routes are pre-selected and adapted to the group avoiding dangerous areas, steep slopes, slippery surfaces, and areas with limited visibility. Key points such as the start, breaks and end of the route are clearly marked.
- ➤ Equipment and personal protection: Participants must use poles of appropriate length and rubber tips, stable shoes with good grip, clothing appropriate for the season, as well as sun protection (hats, glasses, creams). It is recommended to carry a mobile phone, personal documents and a first aid kit.
- ➤ Hydration and thermoregulation: Water intake is encouraged before, during and after activity. In extreme weather conditions (hot temperatures, storms, low temperatures), activities are adapted or postponed.

Systematic verification of routes before conducting activities is mandatory. This includes:

- ➤ Identifying risks: branches, stones, collapses, contaminated areas.
- Accessibility assessment: availability of alternative paths, possibility of rerouting.
- Designation of safe rest areas.
- > Creating a protocol in case of an incident or deteriorated conditions.

Additional safety measures are applied to environmental initiatives, such as waste collection:

- ➤ *Use of gloves:* Mandatory use of protective gloves (preferably reusable, made of durable material).
- **Collection tools:** Tongs or long sticks are used when collecting potentially hazardous waste.
- ➤ Avoiding hazardous materials: The collection of glass, sharp objects, medical waste, and chemicals is not recommended they are marked and reported to the organizers.
- ➤ *Pair work:* To increase safety, participants act on the principle of "partnership", supporting and observing each other.

The topic of safety in the context of NW ECO encompasses not only preventive actions against incidents, but also the creation of a physical and psychosocial environment in which all participants can fully participate. This environment requires an integrated approach – from route selection and appropriate equipment, through technical training, to emotional and social support. By implementing integrated safety and accessibility measures, the NW ECO program creates a model for sustainable, healthy, and inclusive participation of all citizens in activities related to movement and nature care.

How do we determine the winner of a NW ECO competition?

The ECO Nordic Walking competition combines physical activity with a meaningful environmental contribution. To be fair and motivating, the evaluation of participants should include various criteria reflecting both their sporting and environmental performance.

Main criteria for determining a winner

Amount of waste collected - This is one of the most obvious and measurable indicators of participant engagement. Measurement can be done in several ways – by weight (in kilograms), volume (in litres) or by number of waste units collected.

To ensure fairness, pre-calibrated containers or electronic scales can be used if necessary. The winner can be the one who has collected the largest amount while strictly observing safety rules and proper waste handling.

Waste quality - Not all waste has the same value in terms of environmental impact. The collection of hazardous or difficult-to-degrade materials (e.g. plastic, aluminium cans, batteries, glass) is valued more highly. Participants who try to sort waste correctly, recycle it or hand it over for special treatment receive bonus points. This encourages not only quantitative but also qualitative contributions to the environment.

Distance covered - Measuring distance covered allows for an assessment of the physical activity and effort of participants. Using apps such as Strava, Komoot or GPS trackers allows for accurate reporting. Participants who cover longer routes and clean larger areas show high personal motivation and physical endurance.

Efficiency and Technique - This criterion combines the correct Nordic walking technique with the ability to collect litter safely and responsibly. Participants must demonstrate good posture, coordination, an adapted pace and the ability to use poles effectively, while respecting environmental principles - no damage to the terrain, no entry into sensitive areas and no littering. The assessment can be carried out by trained instructors or judges.

Environmental impact - This indicator refers to the real effect of the participants' actions on the environment. For example, is the route visibly cleaner, is there a positive change in the aesthetics of the terrain, are polluted or risky areas found, have they been reported to the responsible authorities. Participants who have contributed to lasting improvements – such as sending eco-messages, participating in greening or marking endangered habitats – can be specially recognized.

Social contribution and engagement - NW ECO is not just a competition, but also a community initiative. This includes participation in teamwork, encouraging other participants, involving volunteers, families, youth groups, etc. Bonus points can be given to teams or individuals who have organized mini campaigns, used social networks to raise awareness, or collaborated with a local authority, school, or sports club.

Assessment model with fixed distance and waste as the main criterion

Basic rules

- All participants cover the same marked distance, e.g. 5 km.
- ➤ The competition is not about speed, but about environmental contribution quantity and quality of the waste collected.
- ➤ The assessment is based on a combination of waste weight, waste type and correct behaviour.

Table 1

Points system to determine the winner

Criterion	Metrics	Points/Description
Weight of collected waste	1 point for every 0.5 kg, up to a maximum of 20 kg	Max. 40 items (e.g. 10 kg = 20 tons)

Waste type (quality)	Plastic, batteries, metal,	+ up to 10 points bonus in
	glass, etc.	the presence of
		environmentally risky
		waste
Separate collection	Separation into	+5 points if proper eco-
	categories (plastic, paper,	standards are met
	etc.)	
Safety and walking technique	Supervision by	+5 points – no violations,
	instructors	with good technique
Photos/evidence/labels	Presented at the final	+5 points – complete and
		clear documentation
Additional initiative (optional)	Planted plant, reporting a	+5 points for an eco-
	contaminated site, etc.	initiative with a lasting
		effect

Maximum points: 70

How is the winner determined?

The participant/team with the highest total number of points wins, with the weight of waste collected being the main consideration, but quality efforts and environmentally friendly behaviour are also encouraged.

In case of equal points - the participant/team with:

- higher percentage of recyclable waste.
- and additional initiative implemented.
- greater engagement (e.g. family participation, children/adults included).

Requirements for organizing a NW ECO competition

- ➤ Planning and coordination with local authorities official permission is required for land use, especially in protected or public natural areas.
- ➤ Route must be carefully selected and marked, ensuring a safe and interesting transition for participants, with marked rest areas, water points, and waste collection areas.
- ➤ Equipment each participant must have poles, gloves, trash bags, reflective gear, and a mobile device with a tracker.
- ➤ Medical support presence of volunteers with first aid skills, as well as availability of first aid kits and the ability to quickly contact a medical team.
- ➤ Separate collection organizers must provide container points for separate disposal and instruct participants on the types of waste.
- ➤ Reporting and awarding finally, the results are visualized (maps, tables, photos), the winners in the categories are awarded, and summarized information about the achieved effect is published.

Safety recommendations:

- ➤ Shoes and clothing: Choosing appropriate sports shoes and clothing for outdoor physical activity.
- ➤ Collection safety: Avoiding direct contact with hazardous waste, using gloves and tools.
- ➤ Hydration: Carrying enough water, especially on longer routes or in hot weather.
- > Group safety: It is recommended that participants move in pairs or small groups.
- Map and orientation: Using GPS applications and following the markings.
- ➤ Medical preparedness: Knowing the location of the nearest medical facilities and how to contact them in case of need.

2.5. Environmental education and awareness through the NW ECO program

The NW ECO program promotes the concept of experiential education, where environmental knowledge and attitudes are built in a natural environment, in motion, and in the context of social engagement. Environmental education is not seen here as an additional component, but as a fundamental pillar of the program philosophy – equivalent to physical activity. The goal is not just to raise awareness, but to build a lasting personal commitment to a sustainable lifestyle and environmentally friendly behaviour.

Each session of the NW ECO program includes short educational elements dedicated to contemporary environmental challenges. The topics are presented in understandable language, through examples, visual aids and discussion. The educational content is directly related to the personal experiences of the participants and their daily environment.

➤ *Plastic Pollution:* Emphasis is placed on the impact of single-use plastics and microplastics on ecosystems. Participants are encouraged to reduce their use and actively remove them from the natural environment.

Plastic pollution is one of the most serious environmental problems of our time, with a particularly strong impact on land, rivers and marine ecosystems. In the context of the Nordic Walking ECO (NW ECO) program, the emphasis is on engaging participants in recognizing, collecting and reducing single-use plastics and microplastics in the environment.

Products like plastic bottles, bags, cups, straws, packaging and cutlery are used in minutes but remain in nature for centuries. They often end up in rivers and seas, where they break down into smaller fragments – microplastics – that are now found in drinking water, food and even human tissue.

Main threats:

- Choking or intoxication of animals that ingest them.
- Pollution of soils and water bodies.
- Ingestion by humans through the food chain.

Microplastics are particles smaller than 5 mm that originate from larger waste or are contained in cosmetics, clothing and industrial products. They are an invisible but pervasive pollutant that is difficult to remove and accumulates in nature.

ECO Nordic Walking combines physical activity with waste collection, turning every walk into a mission for a cleaner nature. Participants not only improve their health, but also actively contribute to reducing plastic pollution.

What participants can do:

- Collect plastic waste along the route: bottles, packaging, plastic bags, etc.;
- Sort them separately at the final point.
- Avoid using disposable products during the event (use your own bottles, cans, etc.);
- To promote recycling and reuse by example.
- To inform other participants about the consequences of plastic pollution.
- Upload photos and stories on social media with the hashtag #NWECOCleanWalk to promote the cause.

During NW ECO trainings and events, short lectures or fact boards may be included:

- How many years does it take for a plastic bottle to decompose?
- How microplastics enter our bodies;
- What alternatives to plastic can we use in everyday life?

Fighting plastic pollution doesn't require special technology - it starts with awareness, personal choice and active commitment. NW ECO provides every participant with the opportunity not only to move, but also to contribute to a cleaner, healthier, and more sustainable future.

> Carbon Footprint: The topic covers transportation habits, energy consumption and consumer behaviour. Concrete steps towards a "carbon neutral" everyday life are presented.

The carbon footprint represents the total amount of greenhouse gases that each person generates through their lifestyle – transportation, energy consumption, food, clothing, waste. The topic is particularly relevant in the context of climate change and focuses on the need to transition to carbon neutral behaviour.

The ECO Nordic Walking (NW ECO) program is not only a physical, but also an educational platform for awareness and reduction of personal carbon footprint through movement, care for nature, and sustainable habits.

Main sources of carbon footprint:

- Transportation: personal cars, airplanes, frequent use of diesel or gasoline vehicles.
- Energy consumption at home: electricity from fossil sources, heating, excessive use of appliances.

- Consumer habits: fast fashion, electronics, disposable packaging.
- Food choices: foods with a large carbon footprint (meat, dairy products), food waste;
- Waste: unseparated collection, lack of recycling, unnecessary purchases.

ECO Nordic Walking is an alternative to a carbon-intensive lifestyle. Participants are encouraged to:

- Choose sustainable transportation: walking, cycling or public transportation to the event location.
- Organize carpooling to reduce emissions.
- They use reusable bottles, boxes and bags during events.
- Reduce the use of electronics while in nature.
- Offset their carbon footprint by planting trees or supporting planting initiatives.
- They track their footprint through free apps (e.g. WWF Footprint Calculator) and make small but sustainable changes in their daily lives.

Concrete steps towards carbon neutral behaviour:

- Walk more drive less: ECO Nordic walking is an excellent opportunity to switch to active transportation that does not emit harmful emissions.
- Choose green routes: Holding events in natural areas highlights the connection between physical activity and the need for their protection.
- Teach by example: Each participant can inspire others through their personal choice whether they will come to the event by bike or bring food in a reusable box.
- Share knowledge: NW ECO organizers can include boards, lectures, and challenges dedicated to the topic of climate responsibility.

Educational component of NW ECO. Through short presentations, board games, apps or QR codes along the route, participants can learn:

- What actions in everyday life generate the most carbon emissions.
- How is the personal carbon footprint calculated?
- What alternatives exist "green electricity", sustainable foods, reuse.
- What is carbon neutrality and how can we achieve it?

Carbon footprint is a shared responsibility, but also an opportunity for real change. NW ECO provides participants with a chance to be both active and environmentally responsible, making every step a contribution to a cleaner atmosphere, fewer emissions, and a more sustainable future.

➤ Climate Change and Biodiversity Loss: Examines causal relationships between human activity and extreme climate events, with an emphasis on the role of everyone.

The Nordic Walking ECO (NW ECO) program presents an opportunity for learning and action, transforming participants into active ambassadors of sustainable behaviour and nature conservation.

What is climate change and why is it critical?

- Climate change: long-term changes in temperatures, precipitation, and seasonal patterns due to greenhouse gases from human sources.
- Consequences: more frequent and intense extreme events heat waves, droughts, floods, storms; threat to agriculture, health and water resources.

Biodiversity loss – the hidden threat

- Biodiversity means the richness of species, genes and ecosystems on Earth.
- Reasons for its loss: deforestation and habitat destruction, water and soil pollution, invasive species, climate anomalies that disrupt migrations, flowering cycles and habitats;
- Result: disruption of food chains, reduction of pollinating insects, spread of new diseases.

ECO Nordic Walking engages participants not only physically, but also intellectually and emotionally, through specific actions and educational elements:

- Nature Observation: Along the route, participants can document plant and animal species using apps like iNaturalist. This increases awareness and creates a connection to the local ecosystem.
- Environmental education on the move. Information signs about protected species, endangered habitats, and causes of biodiversity loss are placed along the route.
- Using QR codes to access additional information and quizzes.
- Behavioural change. Reducing personal carbon footprint, planting trees, avoiding products with palm oil and other resources linked to deforestation, participating in biodiversity monitoring are encouraged.
- Social engagement. Each participant becomes a knowledge multiplier shares what they have learned with others, involves family and friends. Micro-communities are created of people who care for nature and positively influence their environment.

Educational component and suggestions for organizers

- Workshops and trainings during NW ECO events. Topics: climate, plant and animal species, water cycle, connection between soil and carbon balance;
- Projects for young participants a diary of observations, collecting photographic material about local biodiversity, preparing an eco-map of living ecosystems part of the route.

Climate change and biodiversity loss are not distant threats – they are already affecting every region and community. NW ECO turns every hike into a lesson in environmentally responsible behaviour. Participants learn that through their choices – how they get around, what they consume, how they treat the environment – they can be part of the solution, not the problem.

➤ Damage to the quality of natural resources: Participants learn how air, soil, and water pollution affects human health and the long-term sustainability of the environment.

The degradation of natural resources is a slow but destructive process that affects not only nature but also the quality of people's lives. Through the Nordic Walking ECO (NW ECO) program, participants have the opportunity not only to learn about the problem on the ground, but also to actively contribute to its reduction by turning the movement into an engaged and informed care for the environment.

What is the degradation of natural resources?

It represents damage to natural resources (soil, water, air, biodiversity) that reduces their ability to support life – both human and ecosystem.

Main forms leading to damage to natural resources:

- Air pollution emissions from industry, transport, heating, and waste incineration;
- Soil pollution due to landfills, pesticides, deforestation, and erosion.
- Water pollution pollutants from households, agriculture, industry, and municipal waste.

Impact on human health

Participants in NW ECO learn about the following effects - air pollution, leading to an increased risk of asthma, heart disease, cancer; contaminated soil and food, leading to the accumulation of heavy metals in the body, hormonal disorders; polluted water, leading to the spread of infections, lack of clean drinking water, contaminated aquatic foods. Example: microplastics that accumulate in water and the food chain are already found in human tissues.

How NW ECO promotes commitment to resource conservation?

- Waste collection and separate sorting. Participants clean up areas where waste interferes with the natural restoration of the ecosystem. Separate collection of plastic, glass, metals and waste with high polluting potential.
- Information boards and educational recreation areas along the route. Topics: air pollution in the area, eroding soils, polluted water bodies; QR codes for access to interactive lessons and examples of sustainable practices.
- Educational workshops. Children and youth learn how to conduct basic water and soil analysis; Demonstrations of how waste affects the land (e.g. experiments with contaminated and clean soil in plant growth).
- How everyone can reduce their personal contribution to the damage to natural resources. Avoiding products with heavy chemicals (e.g. household cleaners); Properly disposing of batteries, paints, medicines; Using reusable bags and bottles; Participating in greening and maintaining local ecosystems.

The damage to natural resources affects everyone – especially vulnerable groups such as children, the elderly and people with chronic diseases. Through NW ECO, people not only move, but also become aware of how their actions directly affect the air they breathe, the water they drink and the food they eat. Experiential education is the most powerful tool for change – and every eco-walk is a step towards a cleaner and more sustainable environment.

2.6. Social and volunteer aspect of the NW ECO program

The NW ECO program has a strong social and volunteer character, which builds on physical activity through shared experiences, collective responsibility and commitment to society and nature. Participation in ECO Nordic Walking is not just an individual effort, but part of a broader movement in which each person contributes with personal example and voluntary action.

➤ Group activities and rotation of responsibilities. NW ECO events are organized as group activities, in which participants work in small teams with clear roles and responsibilities. This creates a sense of belonging, strengthens coordination, and builds social skills such as cooperation, leadership, and communication.

The rotation of responsibilities includes:

- Distribution of tasks such as group leader, safety officer, person responsible for registering the collected waste, documentary photographer;
- An opportunity for each participant to try out different roles, developing personal initiative and a better understanding of teamwork.
- Promoting mutual assistance between more experienced and new participants, as well as between children and adults.

This structure supports the development of civic engagement, commitment and responsibility towards the environment in the long term.

- > *Involving local sports clubs, schools, NGOs and families.* One of the strengths of NW ECO is the possibility of broad partnership. Volunteering is realized through the active involvement of:
- Community sports clubs that organize routes, provide instructors and equipment.
- Schools and educational institutions that integrate the activity into physical education, environmental education, and civic education programs.
- Non-governmental organizations (NGOs) that contribute expertise in sustainable development, volunteering, and social inclusion.
- Families and individual volunteers participating together, building intergenerational dialogue and shared values.

This approach creates a network of engaged citizens that can grow into a sustainable ecological community at the local and regional level.

- ➤ Recognition: certificates, badges, eco-awards. Every voluntary participation deserves recognition and encouragement. The NW ECO program applies various motivation mechanisms through:
- Certificates of participation that reflect the personal contribution of each volunteer.
- Badges and achievement levels (bronze, silver, gold) based on number of participations, kilometres travelled, waste collected, or groups led.
- Eco-awards, which can be both symbolic (medals made of recycled materials, certificates) and functional (reusable bottles and bags, T-shirts with the NW ECO logo);
- Public recognition of active volunteers on social media, school bulletin boards, or during final events.

These practices encourage perseverance, pride in achievement, and inspiration among other participants.

The social and volunteer element is the heart of NW ECO. It turns every walk into a mission with a cause, unites different generations and backgrounds in caring for our common future, and creates an active, sustainable, and empathetic community.

2.7. Strategic partnerships for the successful implementation of the Nordic walking program with an ecological focus

The Nordic Walking for a Clean Environment – NW ECO program relies on sustainable and meaningful partnerships with a wide range of local and regional stakeholders. The involvement of institutions, organizations and businesses not only supports the logistical implementation of the events, but also strengthens the sense of community, increases the reach of the program and ensures its long-term sustainability. Below are the main types of partners and their roles:

➤ Municipalities and parks: routes, support and legitimacy. Municipalities and park directorates are key partners in NW ECO. They provide institutional support and create a legitimate framework for organizing public events in natural environments.

How they cooperate:

- Approve and mark routes suitable for Nordic walking, including in city parks, eco-trails and green areas.
- Provide access to sanitation facilities, drinking water and initial collection points.
- They help promote the initiative through local channels (boards, websites, social media);
- Participate with representatives or support with logistics and security at larger events.
- Assist in organizing campaigns for separate waste collection, transportation, and calculation of results.

Example: The municipality provides a route on the outskirts of the city; designates waste collection points and prepares a terrain map with "hot spots".

Educational institutions and sports clubs: youth participation and inter-institutional connectivity. The different levels of schools and sports clubs are a natural extension of the educational and sports mission of NW ECO. They activate children, students and young people by integrating the program into academic and extracurricular activities.

How they cooperate:

- They organize student and youth groups to participate in training or competitions.
- Include NW ECO in physical education, ecology or class time.
- Provide teachers or sports instructors as trainers or group leaders.
- They hold internal competitions or celebrate the activity with campaigns during Earth Week, Environment Day, etc.
- They encourage family participation, creating a model of intergenerational connectivity.

Example: A sports club at an educational institution organizes a monthly eco-walk with parental participation and waste collection in the neighbourhood park. Students, within the framework of physical education classes, take an organized part in an eco-walk and waste collection in the city park or along a suitable tourist route. A tourist association organizes an eco-hike with the participation of its members during popular campaigns or historical dates, for waste collection along popular tourist routes.

➤ Environmental organizations: content, materials, and training. Non-governmental organizations with expertise in sustainable development, environmental protection and civic education contribute to the content depth and professionalism of the NW ECO program.

How they cooperate:

- They conduct training for instructors, volunteers and children on nature conservation, waste management, biodiversity and environmental ethics.
- They provide materials: posters, signs, information leaflets, manuals for environmental behaviour.
- Assist in documenting collected waste through online platforms or mobile applications (e.g. iNaturalist, Litterati);
- They organize lectures, film screenings and workshops as a complement to practical activities.
- Provide experts or observers for environmental impact assessment.

Example: An environmental organization conducts a preliminary online lecture for students and provides a kit with separate bags and a guide for identifying waste types.

➤ Local business: sponsorship, motivation and visibility. Partnering with local businesses provides an opportunity for resource support, strengthening the program's recognition and building corporate social responsibility at the local level.

How they cooperate:

- They provide sponsorship or prizes eco-products, vouchers, sports items, experiences.
- They provide materials t-shirts, bottles, gloves, bags with the NW ECO logo.

- Involve employees in events as corporate volunteers ("team building with a cause").
- Promote the activity through their own channels (websites, brochures, stores).
- They provide transportation or catering for events.

Example: A local sporting goods chain donates equipment to participants and awards the winners with shopping vouchers.

The network of partners around NW ECO is a major driver of its growth and impact. The combination of institutional support, educational engagement, environmental expertise and business support turns each event into a multi-layered initiative with a sustainable impact – not only on the environment, but also on the social fabric of the local community.

Creating these alliances is the path to greener, healthier, and more engaged cities and villages.

2.8. Indicators of success in the Nordic walking program with an ecological focus

The effectiveness of the NW ECO program is measured not only by the number of events implemented, but also by its long-term impact on the health of participants, the state of the environment and public engagement. To assess progress and identify areas for improvement, it is important to use clear, measurable, and realistic indicators.

Below is a system of key indicators structured around five main areas of impact:

> Number of participants and events held. This indicator reflects the scope and reaches of the program to target groups: children, youth, adults, people with disabilities, families and volunteers.

Example sub-indicators:

- Total number of NW ECO events held (walks, trainings, competitions, eco-days);
- Number of unique participants by age group.
- Frequency of participation (e.g. number of participants who participated more than once).
- Geographic coverage: number of settlements in which the program is implemented.
- Number of certified volunteers and trained coaches.

Goal: To achieve sustainable growth and inclusion of new communities with each subsequent initiative.

➤ Volume of waste collected, and trees/plants planted. This indicator measures the environmental impact of the program – a direct result of the participants' commitment to nature.

Example sub-indicators:

- Total waste collected (in kilograms or volume).
- Percentage of waste sent for recycling.
- Number of identified contaminated areas and alerts to local authorities.
- Number of trees/plants planted and their condition after 3–6 months.
- Number of marked "eco-points" or eco-infrastructure (signs, containers, etc.).

Goal: To increase the amount of waste removed and the number of restored green areas.

> Increased awareness among participants and the community. In addition to physical participation, the NW ECO program aims to change attitudes and behaviors through awareness and education.

Example sub-indicators:

- Results from pre- and post-event surveys (knowledge of environmental topics, personal commitments).
- Number of participants who reported a change in their habits (e.g. separate collection, plastic restriction).
- Comments and feedback from participants, parents and teachers.
- Increased interest in volunteering, participation in other green initiatives.

Goal: To observe a lasting change in behaviour and attitudes towards the environment.

➤ Visibility and media coverage. High publicity and presence in media and social networks strengthen the credibility of the program and encourage its sustainable expansion.

Example sub-indicators:

- Number of publications in local and national media.
- Number of followers and interactions on social networks (likes, shares, comments).
- Created video/photo reports, short documentary clips.
- Participation of public figures, institutions and influencers.
- Number of inquiries and interest shown by new organizations/municipalities.

Goal: To increase the recognition of NW ECO as a model for sustainable sport and ecological culture.

> Newly established local partnerships and networks. Creating a network of sustainable connections with local institutions and organizations is a strategic indicator of NW ECO's impact and viability.

Example sub-indicators:

- Number of program partners (municipalities, schools, NGOs, companies).
- Number of joint initiatives or events implemented jointly with partners.
- In-kind or logistical support (trainers, equipment, prizes).
- Financial support (donations, sponsorship).
- Number of newly established local groups or clubs under NW ECO.

Goal: To develop a sustainable ecosystem of like-minded people supporting the cause of an active and environmentally friendly lifestyle.

Achieving success in the NW ECO program is measured both quantitatively (participants, waste, events) and qualitatively – by creating a culture of participation, conscious behaviour and commitment. The use of clearly defined indicators ensures that every step forward is visible, measurable and sustainable.

These indicators also facilitate the sharing of good practices between partners, the creation of internal reports, and the justification for future funding or expansion of activities.

3. CAPACITY BUILDING OF SPORTS CLUBS WITHIN THE FRAMEWORK OF THE NW ECO PROGRAM

The sustainable development of the Nordic Walking for a Clean Environment (NW ECO) program depends not only on the individual motivation of the participants, but also on the active involvement of sports clubs, tourist associations and sports-ecological organizations, which can be its long-term carriers and distributors. Therefore, a key element is the investment in training and capacity building of these structures - both in terms of the organization of activities and in the direction of environmental education, inclusion, and volunteering.

Purpose of the trainings

To increase the capacity of non-profit sports clubs so that they:

- > Be able to plan, organize and conduct Nordic walking events with an eco-focus.
- > To expand their activities with innovative and sustainable initiatives, including cleanups, eco-monitoring, planting, and eco-training.
- ➤ To increase the inclusion of diverse groups including children, the elderly, people with disabilities and families.
- To create a network for the exchange of good practices and joint initiatives at local, regional and transnational levels.

Target groups

- ➤ Tourist companies and sports and tourism clubs traditionally collaborating with people of all ages, with experience in conducting hikes and mountain activities.
- ➤ Mountain running, orienteering, hiking clubs with already established facilities, routes and coaching capacity.
- ➤ Sports clubs with a focus on health and social inclusion for example, healthy walking clubs, outdoor yoga, sports for people with disabilities.
- ➤ Non-governmental organizations with an eco-profile that would like to introduce Nordic walking as part of their initiatives.

3.1. Main thematic modules in the trainings

Methodology and technique of Nordic walking

- > Basics of proper technique.
- Adaptation according to age and physical abilities.
- > Safety when organizing hikes and events.

Methodology and technique of Nordic walking in the context of NW ECO

Nordic Walking is an effective and gentle form of physical activity, which, when properly applied, combines aerobic exercise, activation of almost all muscle groups and a beneficial effect on joints, posture and breathing. In the NW ECO program, the technique is further developed with ecological actions and social commitment, which requires a well-structured methodology for training and application.

Basics of proper technique

Effective Nordic walking requires adherence to the following basic principles:

- ➤ Upright posture and slightly forward body tilt balance is maintained and strain on the lower back is avoided.
- ➤ Alternating movements of the arms and legs diagonal movement (left arm with right leg and vice versa), as in a natural walk.
- ➤ Working with the poles they are placed at an angle of 45°, with the movement completed behind the body and the arm relaxed.
- ➤ Active push-off from the pole creates additional momentum and increased aerobic value of the workout.
- ➤ Even rhythm the pace is chosen according to the abilities and the group to ensure comfort and workload.
- ➤ Breathing rhythmically and through the nose when inhaling, through the mouth when exhaling synchronized with the movement.

Proper technique not only improves physical performance, but also reduces the risk of injury, increases endurance, and brings a feeling of ease and pleasure when moving.

Adaptation according to age and physical abilities

One of the great advantages of Nordic walking is its flexibility and applicability to different age and health profiles. NW ECO places special emphasis on this:

> Children and youth

- Introduction through a game approach, eco-tasks, competitions with an element of fun and cooperation.
- The poles are selected according to height, and the routes are short, with varied nature.

➤ Working adults

- The classes are clearly divided warm-up, main part, and cool-down.
- The pace is moderate to energetic; the emphasis is on active relaxation and the anti-stress effect.
- Elements of eco-monitoring or waste collection are included.

People over 65 years old

- Attention to safety: smooth transitions, soft terrain, frequent breaks.
- Focus on improving balance, mobility and social connectedness.
- The training includes exercises for movement and maintaining posture.

People with chronic diseases or disabilities

- Individual approach with consultation from a medical specialist or instructor.
- Using poles as a stability aid.
- Adaptation of duration, terrain and activities included (e.g. cleaning of certain areas).

Methods for correction and motor automation

Nordic walking training requires a focused approach that combines theoretical knowledge with active practical application. The main goal is to build motor memory that allows for the automation of the correct technique, especially when moving on slopes and uneven terrain. Practical steps 5 to 10 in the INWA (International Nordic Walking Federation) methodology are considered key in training climbing, descending and adapting to a changing environment.

Exercise functions

Exercises in the learning process fulfil two main roles:

- Methodical mastery of techniques related to movement on an incline.
- > Error correction through visual feedback and motor repetition.

Using dynamic exercises with multiple repetitions and controlled progression leads to neuromuscular adaptation. This means that with sufficient practice, movements become automatic and more economical and safer.

Examples of basic exercises when working on an incline

- ➤ Climbing a gentle slope with arm and leg synchronization.
- ➤ Descent with stabilization by "holding" in the knees.
- > Rhythmic stride length exercises in an uneven environment.
- > Demonstrations with visual markers for proper stance and pole placement.
- Pair work with a partner for correction and observation.
- ➤ "Blind walking" with controlled closing of the eyes to develop kinaesthetic awareness.

A set of exercises using the INWA method.

➤ Force direction exercise (pullback)

Methodology: The poles are placed vertically in front of the body, with the participant exerting vertical pressure. Gradually the poles are tilted forward, and finally backward at a working angle of about 60°.

Purpose: Illustration of the effect of different angles of pressure and how proper push-off moves the body forward by activating the torso muscles.

Methodological emphasis: The focus is not just on the arm, but on the entire chain of stabilizing muscles of the body.

> Full Stretch Exercise (End of Backward Movement)

Methodology: Both poles are pushed back synchronously with an emphasis on amplitude. It is performed in an alternating manner – placing poles every 2–3 steps.

Purpose: Building a sense of full amplitude of the backswing and activation of the triceps and shoulder.

Methodological emphasis: Controlled movement without overextending the elbow joint.

➤ Active Pole Release Exercise (Grip Release)

Methodology: The hand swings back, the grip is deliberately relaxed, the stick remaining attached by the strap. Re-grip forward in rhythm.

Purpose: Developing relaxation in the grip and improving energy efficiency and rhythm.

Methodological emphasis: A "springy" return of the cue is stimulated without unnecessary tension in the hand.

Forward Swing Exercise (Front Phase)

Methodology: Walking with only one pole. The other hand is free. The participant focuses on the exact moment and place of contact of the pole with the ground.

Purpose: Improving shoulder rotation and coordination with the stride.

Methodological emphasis: During a swing, the knuckles of the hand point toward the ground to maintain the correct angle.

➤ Postural Tilt Exercise (Ankle Bend)

Methodology: From a stable stance, the participant leans forward from the ankles and begins to walk, following momentum.

Purpose: It shows how the incline stimulates natural forward movement without unnecessary effort.

Methodological emphasis: The tilt starts at the ankles, not the waist. The postural line remains straight.

> Torsion movement exercise (torso rotation)

Methodology: The poles are placed behind the neck and held with the hands. While walking, a torsional movement is performed between the torso and pelvis. In a partner version – correction by manual guidance.

Purpose: Developing conscious participation of the torso and back in movement.

Methodological emphasis: The rotation should be symmetrical and in sync with the stride. Suitable for detecting and correcting limitations in the shoulder girdle.

The INWA Step Exercises complex is a methodological framework for improving technique and adapting to the terrain. Their regular application leads to the development of motor intelligence, creating automated and efficient motor patterns. This is key to the safe and sustainable practice of Nordic walking in a variety of outdoor conditions.

Safety when organizing hikes and events.

Regardless of the format – group training, hike or competition, safety is a top priority. At NW ECO it includes:

➤ Preliminary briefing for participants: technique, route, behavior in case of incidents, hydration and sun protection.

- > Suitable equipment: light but sturdy poles with adjustable length, shoes with good grip, hats and gloves if needed.
- A guaranteed route: clear, pre-researched, marked with directions, rest points and possible assistance.
- ➤ Medical preparedness: first aid kit, person with first aid training, information about the nearest medical facility.
- ➤ Group structure: lead and substitute leader, maintaining pace, communicating with participants through signaling devices.
- ➤ Environmental measures: safe waste handling, avoidance of hazardous materials (glass, chemicals), separate collection with gloves.

The Nordic Walking methodology within NW ECO combines proven sports practices with adaptation for environmental commitment and social inclusion. Proper technique, individualized approach and strict safety make each activity not only a physical activity, but also a meaningful experience for the participants and nature.

3.2. Integration of environmental activities into the NW ECO sports program.

The NW ECO program is not just a sports initiative – it is a platform for building a responsible attitude towards nature through movement.

Integrating ecological activities within the framework of Nordic walking turns every step into a tool for learning, conservation and inspiration.

Here is how this can be accomplished through specific methods:

NW ECO: waste collection and categorization.

Walking is at the heart of NW ECO – participants clean natural and urban routes while walking with poles. To make it sustainable and meaningful, the process is enhanced by:

- ➤ Waste categorization: Participants separate waste into types plastic, metal, glass, paper and hazardous waste. This promotes awareness of the types of pollutants and their impacts.
- ➤ *Measuring and recording:* the collected quantities are weighed or measured to track progress and visualize achievements (graphs, dashboards, online platforms).
- **Eco-safety training:** proper glove handling, avoiding dangerous objects, first aid, and responsible waste collection etiquette.

NW ECO is not just an action, but an act of civic participation and ecological change.

Eco-games and educational missions for children and youth

Young participants are a key group in NW ECO. For their active involvement, playful and educational approaches are used that combine learning, movement and fun:

- ➤ Eco-relays competitions with missions, such as collecting a certain type of waste or finding eco-facts along the route.
- ➤ Educational stations signs with questions and tasks are placed along the route: "Guess the tree!", "What should we not throw away into nature?", etc.
- ➤ Coded missions QR codes that lead to short educational videos or challenges that children complete and share in a group.

The goal is to strengthen the emotional connection with nature and encourage early ecological culture through experience.

Tagging and monitoring biodiversity with mobile apps

Nordic walking on nature trails provides a great opportunity to observe and document biodiversity:

> Apps like iNaturalist and PlantNet are used to:

- Photographing and identifying plants, insects and animals.
- Geotagging of observed species.
- Creating an eco-map of living ecosystems as part of the route.
- Educational value: participants learn about the species they encounter and understand the importance of biodiversity.
- > Long-term benefit: the data can be used to analyse changes in flora and fauna, as well as for ecological planning.

This turns the sporting activity into a research and scientific adventure.

Planting and caring for route vegetation.

Another key environmental element is the commitment to truly improving the environment in which the activities are conducted:

- ➤ Planting trees, shrubs or flowers along the routes with the help of local authorities or forestry companies.
- > Use of local species that are adapted to the climate and do not disrupt the ecosystem balance.
- Training in responsible care: how to plant, when to water, why it is important to strengthen the root system.
- ➤ Symbolic "green campaigns": each group or community plants "their" tree and monitors it an example of long-term commitment.

Planting inspires hope, leaves a lasting impression, and creates an emotional connection to the place.

Integrating environmental activities into the NW ECO sports program not only increases physical activity but also shapes citizens with a conscious role in protecting nature.

The combination of movement, learning and environmental action creates a holistic model for development – healthy, engaged and sustainable. This approach builds a community of care, knowledge and action – this is the core of NW ECO.

3.3. Social and inclusive sport within the NW ECO

The NW ECO program builds on standard sports practices by creating an accessible, supportive and inclusive environment. Nordic walking, combined with ecological activities, is not only a form of physical activity, but also a means of social connection, empowerment and inclusion of people of different ages and abilities.

Working with vulnerable groups (elderly, people with disabilities)

One of the leading goals of NW ECO is the inclusion of all, regardless of physical, sensory or cognitive differences. The program provides flexible and adaptable participation opportunities:

- ➤ Elderly people: routes are tailored to their abilities flat terrain, short sections, frequent breaks and support from instructors.
- ➤ People with disabilities: adapted equipment is provided (slight modification of poles, appropriate gloves), individual or group support, selection of tasks according to capabilities (e.g. observation, registration, keeping a diary of activities).
- > Psychosocial support: inclusion in activities improves self-esteem, reduces social isolation, and builds a sense of belonging.

The principle is: everyone can participate, everyone has a role, everyone is important.

Volunteering and mentoring

Volunteering is a main driver of NW ECO – it creates an atmosphere of empathy, responsibility and personal commitment:

- ➤ Volunteers from the local community help with logistics, organization, and technical assistance.
- ➤ Mentors more experienced participants or trained coaches support newcomers, especially people from vulnerable groups, students or adults who are joining for the first time.
- ➤ Youth volunteer teams develop leadership qualities, organizational skills and a sense of civic responsibility.

Mentoring at NW ECO is not only focused on technical training, but also on creating human bridges between generations and communities.

Leading a group and managing dynamics

At NW ECO, the emphasis is on group participation, which requires effective leadership and positive group dynamics:

- A trained leader or instructor guides the pace, sets the rhythm of breaks, and motivates the team.
- Establish roles and responsibilities: identify participants responsible for safety, waste measurement, photography, environmental observations.
- ➤ Interactive methods for unification games, discussions, reflections after the hikes.
- ➤ Task rotation each participant can engage in a different role, which increases the sense of significance and cohesion.

Proper group management ensures that physical activity takes place in an atmosphere of support, trust, and respect.

Family participation and intergenerational approach

NW ECO is an excellent field for involving entire families and promoting intergenerational dialogue:

- Family routes: planned to be suitable for children and adults, with games, shared tasks and breaks.
- ➤ Joint eco-initiatives tree planting by "family teams", competitions between families, ecological quizzes.
- ➤ Educational value: parents become role models, and children bearers of environmental messages.
- ➤ Creating traditions the repetition of family participation builds long-lasting habits and values.

The intergenerational element of the program strengthens the social fabric of the community and passes environmental care from generation to generation.

NW ECO's social and inclusive approach proves that sport can be much more than physical exertion – it can be community, mission and care.

Through carefully structured activities, adapted practices and an emphasis on solidarity, the program creates spaces where every person – regardless of age, ability or social status – feels accepted, useful and inspired. This is sport with meaning.

3.4. Benefits for sports clubs and tourism companies

Participation in the Nordic Walking ECO (NW ECO) program leads to a lasting increase in the capacity of sports and tourism organizations through:

➤ Diversifying activities – adding an environmental component makes club initiatives more attractive to new and different audiences.

- ➤ Increasing expertise through training in safety, inclusion, environmental education and group leadership, clubs build a more confident and competent team.
- ➤ Building networks and partnerships by working with schools, municipalities, NGOs and local businesses, the influence and resource base of the organizations is expanded.
- ➤ Access to new sources of funding projects focusing on sustainability, health and social inclusion provide opportunities for participation in national and European programs.
- ➤ Affirmation of a social role clubs position themselves not only as providers of sports, but also as active participants in environmental education and social connectivity at the local level.
- ➤ Attracting and retaining volunteers through rotation of responsibilities, recognition and mentoring, a sustainable volunteer culture is built.

The NW ECO program transforms sports and tourism companies into drivers of positive change – not only through movement, but also through sustainable, inclusive and environmentally friendly behaviour.

3.5. Model for a local sports event: "Clean walking - green future"

Basic concept:

It combines Nordic walking with organized cleaning of natural and urban parks, ecoeducational elements and social engagement. It is held in partnership with the municipality, sports clubs, schools and environmental organizations.

Event structure:

- > Preparation and partnerships
- Choosing a route in a park, eco-trail or protected area (4–8 km)
- Coordination with the municipality and park management (permits, assistance)
- Involving local sports clubs, schools and NGOs
- Providing logistics: bags, gloves, water, markings, containers for separate collection
- > Registration and briefing
- Online or on-site participants are divided into age/physical groups.
- Instruction on walking technique, safety, eco-behavior
- Distribution of starter packs (equipment, route map, eco-task)
- ➤ Conducting an eco-walk

The route includes 3 to 5 "eco-points":

- Waste collection (Nordic walking ECO)
- Separate sorting and short quiz
- Photo-surveillance of biodiversity (via the iNaturalist app)
- Mission "green" planting a tree/plant (if possible)
- Finale and awards ceremony

Measuring results:

- Number of participants
- Kilograms of waste collected.
- Number of plants planted.
- Documented finds from nature.

Awarding by categories:

- "The most eco-friendly family"
- "Eco-Club of the Month"
- "Youngest/Oldest Participant"
- Certificates of participation

Table 2

Sample event schedule.

Hour	Activity
09:00	Registration and briefing
10:00	Start of the route in groups
11:30	Eco-points: cleaning, games, missions
13:00	Final, results reporting
13:30	Awards ceremony and eco-picnic

Additional components:

- Photo Contest: "My Green Step"
- Workshops for children: applications with recycled materials
- Mobile exhibition: "What did we find along the way?" with eco-findings.

Local sports events like "Clean Walking - Green Future" represent a successful symbiosis between physical activity, environmental education and social responsibility. They not only promote a healthy lifestyle through Nordic walking but also build a sense of belonging to nature and community among participants.

By bringing together different stakeholders – municipalities, schools, sports clubs, environmental organizations, and local businesses – these events can become a sustainable model for engaging citizens with real actions in support of the environment.

With its accessibility, educational value and inclusiveness for people of all ages and abilities, NW ECO is not just a sports initiative, but a platform for change. It inspires through personal example, collective energy and green steps towards a cleaner future.

3.6. Electronic platform for learning and communication: digital transition and development of "green skills" in the context of NW ECO

In today's world, where digitalization affects almost every aspect of life, electronic platforms are emerging as a key tool for learning, collaboration and building sustainable communities. Within the framework of the NW ECO project, which combines Nordic walking with environmental responsibility, the creation of an electronic platform is a strategic tool for:

- ➤ Development of "green skills" among coaches, volunteers and participants.
- Accelerating the digital transition of sports clubs and eco-organizations.
- > Strengthening communication between partners, communities and institutions.
- > Providing sustainable and flexible learning, accessible anytime, anywhere.

Main objectives of the platform

- ➤ Green Competency Training. Provides content related to environmental protection, sustainable behaviour, waste management, biodiversity, and climate action.
- ➤ Digital skills development. Assists sports clubs and organizations in the use of digital tools: online event management, results tracking, online reporting, etc.
- ➤ Creating a community and exchanging good practices. Provides an interactive space for communication between participants, sharing cases, resources, ideas and successes.
- > Sustainable learning and self-study. Allows flexible access to content through videos, tests, presentations, and self-study resources.

Table 3

Main functionalities

Functionality	Description
Online modules	Courses in Nordic walking, environmental protection, inclusion,
	first aid and safety
Interactive resources	Video tutorials, infographics, e-guides, sample activity plans
Progress tracking	Individual profile with visible results, certificates upon
	completion
Forum and chat	Exchange of experience, consultations with experts, connection
	between participants from different countries
Events calendar	National and international initiatives, webinars, live trainings
Resource Library	Shared good practices, templates, reports, environmental tools

Green skills in the context of NW ECO

"Green skills" are those competencies that allow people to work and live sustainably, in harmony with nature. The electronic platform develops them through:

➤ Knowledge of waste management and circular economy.

- > Skills for organizing eco-events and sustainable sports activities.
- > Understanding the relationship between climate change and individual habits.
- > Implementing environmentally friendly solutions in everyday life and sports practice.

Approach to digital transition

Through the platform, sports clubs and NGOs:

- > They are moving towards digital administration of projects and events.
- > Use online tools for volunteer management, resources, and accountability.
- > Implement mobile monitoring applications (e.g. iNaturalist, Strava);
- ➤ They gain access to online training, which increases their capacity regardless of location.

Collaboration and network development

The platform serves as a digital bridge between:

- > National and local sports clubs.
- > Eco-organizations and natural parks.
- > Volunteers, teachers, mentors and institutions.
- Families and individual citizens.

Expected results

- > Increased participant engagement through interactive and motivating content.
- Enhanced capacity of clubs to organize sustainable initiatives.
- > Improved environmental culture among different age and social groups.
- > Creating a transnational network for environmentally responsible sport.

The NW ECO e-platform is the heart of an innovative and engaging ecosystem that connects physical activity, sustainable behavior, and digital culture. It encourages participants not only to move, but also to learn, act, and change the world around them for the better — one step at a time, one step at a time.

3.7. Public campaigns and information materials to raise awareness and disseminate the results of the NW ECO program

An informed and active society is at the heart of sustainable change.

For the results and impact of the NW ECO program to be sustainable, recognizable and expanded, public campaigns and dissemination of information through modern communication channels and approaches are key.

These activities serve not only to promote specific initiatives, but also to inspire communities, shape attitudes, and attract new participants and partners.

Public campaign goals

- ➤ Raising awareness about environmental challenges and the role of physical activity.
- ➤ Encourage participation in NW ECO initiatives.
- > Presentation of good practices and achieved results.
- > Drawing attention to the role of sports clubs and volunteering.
- > Support for the building of environmentally responsible and socially engaged communities.

Main forms of public campaigns

- **Channel:** social networks (Facebook, Instagram, TikTok, YouTube), websites, newsletters.
- > Content: videos of events, interviews with participants, graphs with results (number of participants, waste collected, trees planted), environmental tips.
- Format: campaigns with a slogan (e.g. "Every step matter", "Walk clean live green");
- ➤ *Goal:* reaching young people, families, communities, institutions.

Local events and demonstrations

- > Ecological walking day with local press and radio.
- > Demonstrations of technology and eco-initiatives in schools, sports clubs and public spaces.
- > Public open-access competitions and prizes.
- > Partnership with municipalities and cultural organizations.

Educational info points

- Construction of information stands during events.
- ➤ Distribution of leaflets, flyers, brochures with practical guidelines (e.g. "How to organize an ECO hike", "10 steps to green walking").
- ➤ Interactive eco-games and posters with "questions and answers" for children.

Media partnerships and participation in local media

- > Invitations to journalists to cover events.
- > Publications and interviews in local newspapers, radio and television.
- > Participation in thematic shows

Interactive digital materials

- > Infographics with campaign results.
- ➤ Video diaries from participants and volunteers.
- ➤ Online catalogues of "good practices" from sports clubs.
- ➤ Map with marked "cleaned routes" and forested areas.

Performance tracking and analysis

To ensure impact, public campaigns should be tracked through:

- Number of people reached (impressions, views, likes).
- Feedback from participants (surveys, comments, shares).
- > Increased interest in events and increase in registrations.
- > Increased number of partnerships and institutional support.
- ➤ Considering logo recognition and key messages.

Public campaigns and information materials are not just accompanying activities, but a real driving force for the social and environmental impact of the NW ECO program. They create an environment in which everyone – from child to adult, from sports club to local government – can be informed, inspired, and involved in change. Clear communication and active dissemination turn every step into a story, every gesture into a message, and every initiative into a social value.

The NW ECO program - Nordic Walking for a Clean Environment represents an innovative model for the integration of sport, environmental education, and social engagement, which gives new meaning to physical activity through the purposeful inclusion of environmental actions and community work.

The guide brings together in one place the comprehensive methodology, good practices and applicable models that sports clubs, volunteer structures, tourism companies, educational institutions and local authorities can use to implement meaningful and inclusive activities, united by the idea of a healthy and sustainable lifestyle.

Nordic walking, recognized as a safe, accessible, and effective form of physical activity, has been further developed within the program as a carrier of ecological behaviour - through activities such as eco-transition, tree planting, biodiversity mapping, separate waste collection and carbon footprint tracking. Thus, walking becomes not only a means of movement, but also an action with a measurable environmental and social effect.

The guide is designed as a flexible tool that can be adapted according to the local context, available resources and the specific needs of the participants.

NW ECO is more than a project – it's a movement towards:

- > healthier society,
- > cleaner environment,
- > more cohesive communities,
- > and a better future.

This guide is an invitation – to move forward together, step by step, towards a more sustainable and conscious life.

BIBLIOGRAPHY

- 1. Volodina K. A., Runenko S. D., Alaeva E. N., (2016) Nordic walking as a new direction of mass health physical culture, Collection of articles of the Interuniversity Scientific and Practical Conference part 2, Moscow State University, 31-38
- 2. American Nordic Walking Association (ANWA). Instructor Manual. https://www.anwa.us
- 3. **Church, TS, Earnest, CP, Morss, GM** (2002). Field testing of physiological responses to Nordic walking. Research Quarterly for Exercise and Sport, 73(3), 296–300.
- 4. **Figueiredo, TC, Ritti-Dias, RM, Ferreira, RM, & Umpierre, D.** (2022). Effects of Nordic walking on physical function and quality of life in older adults: A systematic review and meta-analysis. Experimental Gerontology, 162, 111754. https://doi.org/10.1016/j.exger.2022.111754
- 5. **International Nordic Walking Federation (INWA)** . INWA 10 Step MethodTM for Teaching Nordic Walking. https://www.inwa-nordicwalking.com/
- 6. **Kukkonen-Harjula, K., & Laukkanen, R.** (2004). Nordic Walking: An effective physical activity for health. Scandinavian Journal of Medicine & Science in Sports, 14(6), 356–359.
- 7. **Lauche, R., Langhorst, J., Dobos, G., & Cramer, H.** (2016). A systematic review and meta-analysis on the effects of Nordic walking on body composition and functional parameters in older adults. Clinical Interventions in Aging, 11, 1479–1491. https://doi.org/10.2147/CIA.S116387
- 8. **Morat T, Krueger J, Gaedtke A, Preuss M, Latsch J, Predel HG.** // Eur Rev Aging Phys Act. Effects of 12 weeks of Nordic Walking and XCO Walking training on the endurance capacity of older adults/ 2017. Vol. 12. P. 21–23
- 9. **Pellegrini B, Boccia G, Zoppirolli C, Rosa R, Stella F, Bortolan L, et al.** (2018) Muscular and metabolic responses to different Nordic walking techniques, when style matters. PLoS ONE 13(4): e0195438. https://doi.org/10.1371/journal.pone.0195438
- 10. Peyré-Tartarugaab LA, Boccia G., Martins V., Zoppirollia C., Bortolanad L., Pellegriniad B. Margins of stability and trunk coordination during Nordic walking, Journal of Biomechanics, Volume 134, 2022, https://doi.org/10.1016/j.jbiomech.2022.111001
- 11. PFNW Polish Federation of Nordic Walking. (2023). Official publications and manuals.
- 12. **Reuter I, Mehnert S, Leone P, Kaps M, Oechsner M, Engelhardt M.** (2011). Effects of a flexibility and relaxation program, walking, and Nordic walking on Parkinson's disease. J Aging Res 2011; (7252):232473 . DOI: 10.4061/2011/232473
- 13. **Schiffer, T.** (2006). Nordic Walking: Das neue Ganzkörpertraining. Munich: BLV Buchverlag.
- 14. **Schiffer, T., Knicker, A., Montoye, AH, & Strüder, HK** (2006). Physiological responses to Nordic Walking, walking and running. European Journal of Applied Physiology, 98(1), 56–61. https://doi.org/10.1007/s00421-006-0242-5
- 15. **Tschentscher, M., Niederer, D., & Walther, A.** (2013). Nordic Walking: Evidence-based health benefits. Deutsches Ärzteblatt International, 110(21), 356–361. https://doi.org/10.3238/arztebl.2013.0356
- 16. **Urbanowski, T., & Church, TS** (2009). Nordic Walking: The Complete Guide to Health, Fitness, and Fun. Meyer & Meyer Sport.

- 17. **World Health Organization (WHO).** (2020). Guidelines on physical activity and sedentary behavior. Geneva: World Health Organization. https://www.who.int/publications/i/item/9789240015128
- 18. Zagorska udruga za recreativne sportove "Sport za sve" & Nastavni zavod za public zdravstvo "Dr. Andrija Štampar". (2019). Project "Nordijsko hodanje Zdrav život".
- 19. Azimut Running and Orienteering Academy https://azimutrunners.wordpress.com
- 20. Bristol Nordic Walking https://bristolnordicwalking.co.uk/
- 21. Deutscher Turner-Bund https://www.dtb.de/gesundheit/standardisierte-programme/nordic-walking
- 22. Kickstarter https://www.kickstarter.com/
- 23. Muziker sport https://www.muziker.bg/blog/kak-da-izberem-stheki-za-severno-hodene
- 24. Nordic Walk Store https://www.nordicwalk.store/
- 25. Nordic Walking Tours https://nordicwalkingtours.cz/
- 26. RehaFit https://rehafit-meitingen.de/
- 27. Seveneight sport solutions https://seveneight.es/en/plogging/