Youth Activism through Solargraphy

TOOLKIT

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2024-1-RO01-KA153-YOU-000237414

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Participating Organisations:

- Asociatia Empower Plus – Coordinator – Romania
- Rakonto – France
- Stowarzyszenie Aktywnosci Przeroznych niemarudni.pl – Poland
- InterAktion – Verein für ein interkulturelles Zusammenleben – Austria
- Pythia Koinoniki Sineteristiki Epixeirisi Syllogikis kai Koinonikis Ofelias – Greece
- 100% Aventura – Associação de Desporto e Natureza – Portugal
- Linkuva Youth & Children Centre – Lithuania
- Le Terre di Mare con Federico – Italy
- Aalen Antakya Kültür Derneği – Türkiye

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SUMMARY


YOUTH ACTIVISM
ACT NOW!
THROUGH SOLARGRAPHY
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INCLUSIVE PARTICIPATION
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Chapter 1

Erasmus+ framework and project context: 'Youth activism through solargraphy'

1.1 Erasmus+ as a framework for youth work development

Erasmus+ is the European Union's programme for education, training, youth, and sport aiming to support learning mobility, cooperation, inclusion, and innovation across Europe, contributing to personal development, employability, and active citizenship (European Commission, 2023a).

In the youth field, Erasmus+ recognises youth work as a distinct form of non-formal and informal learning that supports young people's personal, social and civic development. Youth work under Erasmus+ is characterised by learner-centred approaches and experiential learning processes, which enable young people to develop competences such as critical thinking, social responsibility, intercultural awareness, and democratic participation (European Commission, 2023b).

Non-formal learning refers to structured learning activities that take place outside formal education systems and are designed to be flexible, participatory, and responsive to learners' needs. Research and EU policy documents consistently emphasise that non-formal learning plays a key role in fostering civic engagement and social inclusion, particularly for young people who may not be effectively reached through formal education alone (Council of the European Union, 2020).

1.2 Mobility of youth workers (KA153-YOU)

Mobility of Youth Workers, funded under Key Action 1 of Erasmus+, is designed to strengthen the quality of youth work by supporting the professional development of youth workers and youth leaders. These mobility projects enable participants to engage in international learning activities such as training courses, peer-learning seminars, or study visits, with the aim of improving competences,

methods, and approaches used in youth work practice (European Commission, 2023c).

These projects also align with broader European policy frameworks, including the European Youth Work Agenda 2022–2030, which highlights quality, innovation, and recognition as strategic priorities for the youth work sector. Within this agenda, creative and participatory approaches are identified as essential for addressing contemporary challenges such as environmental sustainability, democratic participation, and social cohesion (Council of the European Union, 2020).

1.3 Project context and overview: Youth activism through solargraphy

Within the Erasmus+ framework, an increasing number of youth work projects focus on creative and visual methods as tools for participation and social engagement. Photography, video, and other visual practices are widely recognised for their potential to engage young people in reflective processes, enable alternative forms of expression and support dialogue on complex social and environmental issues (Wang and Burris, 1997).

Solargraphy, a form of long-exposure pinhole photography that records the movement of the sun over extended periods of time, represents a particularly accessible and low-cost visual method. Using simple, often recycled materials, solargraphy combines artistic practice with observation, patience, and reflection. Its emphasis on time, place, and environmental change makes it especially relevant for youth work activities addressing sustainability and ecological awareness.

In the context of youth activism, visual methods can function not only as artistic outputs but also as communication tools that support advocacy and public engagement. When young people are involved in the creation and interpretation of visual material, they are more likely to develop a sense of ownership over the issues addressed and to engage critically with their social and environmental surroundings (Latz, 2017).

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Project summary

The project Youth Activism through Solargraphy addresses a set of interconnected challenges commonly identified in contemporary youth work practice: low levels of youth participation in civic life, limited engagement with environmental issues, and a lack of accessible and motivating methods to support youth-led activism. Across Europe, youth workers increasingly report difficulties in sustaining young people's interest in traditional awareness-raising activities and in translating abstract concepts such as sustainability or active citizenship into meaningful, lived experiences (European Commission, 2023b).

In response to these challenges, the project introduces solargraphy as a creative, participatory and environmentally conscious visual method. Solargraphy enables young people to engage directly with their surroundings over extended periods of time, fostering observation, reflection and dialogue about environmental change and human impact. Its reliance on simple materials and long-term processes makes it particularly suitable for youth work contexts that prioritise inclusion, low-cost implementation and experiential learning.

The project seeks to contribute to a shift from passive awareness to active engagement, by equipping youth workers with a method that supports young people in expressing concerns, constructing narratives and communicating messages related to environmental and civic issues. Rather than focusing solely on artistic outcomes, the project positions solargraphy as a tool for participation, advocacy, and social dialogue.

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Project partners

The project is implemented by a transnational partnership composed of organisations active in youth work, non-formal education, culture and social engagement:

- Asociatia Empower Plus – Coordinator – Romania
- Rakonto – France
- Stowarzyszenie Aktywnosci Przeroznych niemarudni.pl – Poland
- InterAktion – Verein für ein interkulturelles Zusammenleben – Austria
- Pythia Koinoniki Sineteristiki Epixeirisi Syllogikis kai Koinonikis Ofelias – Greece
- 100% Aventura – Associação de Desporto e Natureza – Portugal
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The diversity of organisational profiles and geographical contexts strengthens the project's relevance and supports the transferability of its outcomes across different youth work environments.

Main project activities

The core activity of the project consists of an international training course for youth workers, designed to build practical competences in using solargraphy for youth activism and environmental engagement. The training combines conceptual input with hands-on experimentation and collaborative learning. The training course focuses on:

- sessions dedicated to civic education, environmental education and active participation;
- understanding the principles of solargraphy and pinhole photography;
- constructing solargraphy cameras using recycled or everyday materials;
- capturing and processing long-exposure images;
- transforming visual material into communicative messages;
- designing advocacy and awareness-raising initiatives using visual outputs.
- visual storytelling exercises and activism campaigns;
- the promotion of civic initiatives.

In addition to the training course, the project includes:

- The development of a Toolkit on solargraphy for social change and youth activism, to be shared for wider use beyond mobility;
- The project also includes the creation of campaigns developed during the training course;
- A physical exhibition in an art gallery was organised, showcasing the pictures and campaigns produced during the training course;
- A VR exhibition was also developed to present campaigns, solargraphy photographs, and participant reflections in an accessible digital format.

Beyond the mobility activity, the project includes follow-up and dissemination actions implemented at international and local level by participating organisations. These actions aim to transfer the method to young people in different communities and to share the learning outcomes through workshops, public events, exhibitions, and digital channels, in line with Erasmus+ expectations regarding sustainability and wider impact (European Commission, 2023c).

Project objectives

The project pursues a set of interconnected objectives that address both youth work quality and youth participation.

The general objectives are:

- to enhance the quality of youth work by introducing innovative, creative, and eco-friendly methods;
- to promote youth activism, civic participation, and environmental awareness;
- to strengthen the capacity of youth organisations to engage young people through non-formal learning.

The learning objectives for youth workers include:

- developing practical skills in applying solargraphy as an educational and activist tool;
- increasing competence in designing and facilitating participatory activities centred on environmental and civic themes;
- strengthening abilities related to visual communication, reflection, and advocacy-oriented campaign design.


Barriers to youth participation
PERSONAL BARRIERS
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'Youth Activism through Solargraphy'- Training Course
MAY 2025, Danube Delta.
Through this project we want to increase the competences of 27 youth workers from 9 countries for:
• promote youth activism
• proactivity
• sense of initiative of the youth they work with
by using Solargraphy as an innovative, creative and eco-friendly tool.
Solargraphy, as a photography technique, is obtained by using simple, everyday recycled objects such as cans, bottles, boxes, etc which will become the "camera".
Partnering NGOs are from:
• Romania
• France
• Poland
• Austria
• Greece
• Portugal
• Lithuania
• Italy
• Turkiye
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1.4 Relevance of creative and visual methods in youth work

European youth policy increasingly recognises the importance of participatory and creative approaches in supporting young people's engagement with democratic life and societal challenges. The Erasmus+ Programme Guide explicitly highlights participation, inclusion, and civic engagement as priorities, encouraging activities that enable young people to express their views and contribute to their communities (European Commission, 2023b).

Visual and arts-based methods offer specific advantages in this respect. They can lower participation barriers, support intercultural dialogue, and enable young people to communicate complex ideas in accessible and emotionally resonant ways. Participatory photography approaches, such as photovoice, have been widely used in educational and community contexts to promote critical reflection, empowerment and social change, particularly in relation to environmental and social justice issues (Wang and Burris, 1997).

By integrating visual methods such as solargraphy into youth work, practitioners can create learning experiences that align with Erasmus+ priorities while fostering environmental awareness, civic participation and creative expression.

In relation to environmental activism, visual methods offer specific advantages. Environmental issues often involve processes that unfold over time and may not be immediately visible. Time-based visual practices, such as solargraphy, make these processes perceptible and can stimulate discussion about change, responsibility, and future-oriented action. By engaging young people in observing and documenting their environments, such methods support the development of environmental awareness grounded in lived experience rather than abstract information.

Core learning logic

The learning logic underpinning the project follows a progressive, experiential sequence commonly used in non-formal education:

learn → experiment → reflect → apply → transfer

Youth workers first acquire conceptual understanding of the method and its potential applications. This is followed by practical experimentation through camera construction and image production. Structured reflection supports participants in analysing both the process and the outcomes, before moving towards application in the form of advocacy-oriented activities. Finally, the transfer phase ensures that learning is embedded into local youth work practice. This logic is particularly effective in youth work because it combines cognitive learning with embodied experience and reflective dialogue. Research on non-formal and experiential learning highlights that such cycles support deeper engagement, competence development and long-term retention, especially when learners are expected to apply methods in real-life contexts (Kolb, 2015).

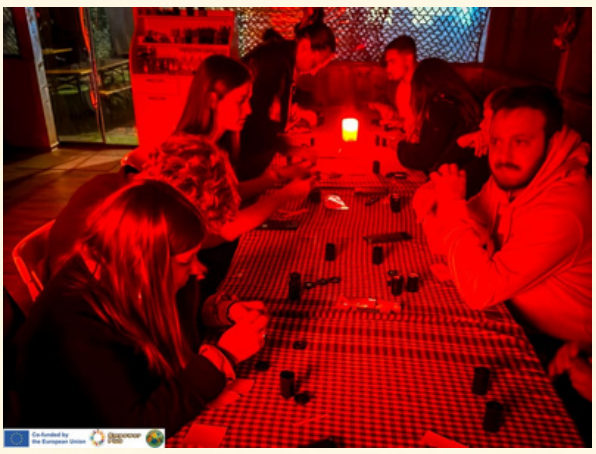
Chapter 2

Solargraphy and Pinhole Photography: Concepts, Principles, and Educational Relevance

2.1 What Is Solargraphy?

Solargraphy (sometimes referred to as solarigraphy) is a photographic technique based on extremely long exposures that record the apparent movement of the sun across the sky over extended periods of time, ranging from several days to several months. The resulting images show continuous arcs or trails that represent the sun's daily paths, layered over time within a single frame. Unlike conventional photography, solargraphy does not aim to capture a decisive moment. Instead, it documents duration, change and repetition, making visible processes that usually remain imperceptible in everyday observation. This characteristic distinguishes solargraphy from other photographic practices and positions it as a time-based visual method rather than an instant image-making technique (Renner, 2008).

Solargraphy images are typically produced using a fixed pinhole camera constructed from simple containers such as aluminium cans, jars, or boxes. Light enters the camera through a very small aperture and gradually exposes photographic paper placed inside the container. In most cases, the paper is not chemically developed; instead, the image is digitised through scanning or photography and adjusted digitally to enhance contrast and readability (Sobota and Mašek, 2018).



2.2 Historical Origins of Pinhole Photography

The principles underlying pinhole photography predate the invention of modern photography by several centuries. The phenomenon of light projecting an inverted image through a small aperture was first systematically described in antiquity and later explored through the concept of the camera obscura. Philosophers and scientists observed that light passing through a tiny hole into a darkened space produces an image of the outside scene, establishing the optical foundation for image formation (Renner, 2008).

During the Renaissance, the camera obscura was widely used by artists and scientists as an aid for drawing and studying perspective. Although these early devices did not record images permanently, they demonstrated that a lens was not essential for image projection. This understanding later became fundamental to the development of photography in the nineteenth century, when light-sensitive materials made it possible to fix projected images onto surfaces (Renner, 2008).

Pinhole photography emerged as a continuation of this tradition, retaining the simplest optical form of the camera while allowing images to be permanently recorded. Its historical significance lies in demonstrating that photography is fundamentally a process of light and time, independent of complex technology.

2.3 Pinhole Photography: Fundamental Principles

Solargraphy is rooted in the principles of pinhole photography, one of the earliest and simplest photographic techniques. A pinhole camera functions without a lens, relying instead on a small aperture that allows light rays to project an inverted image onto a light-sensitive surface. The absence of optical elements results in images with infinite depth of field and soft edges, emphasising form, light and movement rather than sharp detail (Renner, 2008).

From a technical perspective, the pinhole aperture controls exposure by limiting the amount of light entering the camera. Because the aperture is extremely

small, exposure times are significantly longer than in lens-based photography. In solargraphy, this property is intentionally exploited to accumulate light over prolonged periods, allowing the sun's movement to be recorded as a continuous trace rather than as discrete moments (Sellers, 2022).

Understanding these principles is essential for youth workers facilitating solargraphy activities, as it enables them to explain the relationship between light, time, and image formation in accessible terms. This foundational knowledge also supports problem-solving during practical activities, such as adjusting camera placement, managing overexposure or interpreting unexpected visual results.

2.4 From Pinhole Photography to Solargraphy

While pinhole photography traditionally involves exposure times ranging from seconds to minutes, solargraphy extends this logic to its temporal extreme. By fixing the camera in a single position for days or months, solargraphy transforms pinhole photography into a method for observing cyclical natural processes rather than isolated scenes.

This shift in duration alters both the technical and conceptual nature of image-making. Instead of capturing objects, solargraphy captures movement through time, making it particularly suitable for visualising environmental rhythms such as seasonal change or weather patterns. The resulting images are therefore not only photographs but visual records of temporal processes (Trygg, 2017).

This extension of pinhole photography reinforces the idea that solargraphy is not a separate technique, but a specialised application of pinhole principles adapted for long-term observation.

2.5 Materials and Low-Threshold Practice

One of the defining characteristics of solargraphy is its reliance on simple, low-cost and often recycled materials. Commonly used camera bodies include

aluminium cans, plastic bottles or cardboard boxes, which are easily accessible and require minimal modification. Photographic paper serves as the light-sensitive surface, and basic tools such as needles, tape and sealants are sufficient to construct functional cameras (Lomography, n.d.).

This material simplicity has important educational implications. The method removes technological barriers and reduces dependence on expensive equipment, making it suitable for inclusive youth work contexts. The use of upcycled materials also introduces an implicit environmental dimension, aligning the practice with sustainability principles and encouraging participants to reflect on consumption, reuse and material value.

In youth work settings, this low-threshold approach supports experimentation and collective learning. Participants are not required to possess prior photographic knowledge, and the emphasis shifts from technical mastery to observation, patience and interpretation.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2.6 Solargraphy as a Time-Based Artistic Practice

From an artistic perspective, solargraphy occupies a unique position between photography, environmental art, and conceptual practice. The images produced are shaped not only by human intention but also by environmental conditions such as weather patterns, seasonal changes and the physical stability of the camera over time. As a result, solargraphy images often include imperfections, distortions, and traces of chance, which become integral to their meaning (Renner, 2008).

This openness to unpredictability distinguishes solargraphy from controlled photographic practices and invites reflection on the relationship between humans and their environments. The extended exposure period requires commitment and delayed gratification, qualities that contrast sharply with the immediacy of digital image culture. In educational contexts, this temporal dimension can support discussions about attention, sustainability and long-term thinking (Sobota and Mašek, 2018).

Solargraphy therefore functions as a documentation tool and also as a reflective artistic process that foregrounds duration, continuity, and change.

2.7 Educational Relevance for Youth Work

In youth work, solargraphy offers a method that combines scientific principles, artistic expression, and experiential learning. The process encourages young people to engage actively with their surroundings, make deliberate choices about place and framing, and reflect on the passage of time and environmental transformation.

Because results are not immediate, solargraphy supports learning processes that unfold gradually. This aligns with non-formal education approaches that value reflection, dialogue, and iterative learning. The act of waiting for images to emerge creates space for discussion, hypothesis-making, and collective interpretation, reinforcing learning as a shared process rather than a product-oriented outcome (Lomography, n.d.).

Furthermore, the visual outputs produced through solargraphy can serve as starting points for broader conversations about environmental awareness, human impact and civic responsibility.

2.8 Linking Practice to Further Application

By understanding how solargraphy images are formed and how the method emerges from earlier photographic traditions, youth workers are better prepared to facilitate meaningful learning experiences:

- how learning processes around solargraphy can be structured within non-formal education;
- how cameras are constructed step by step;
- how images are used for communication, environmental awareness, and activism.

Chapter 3

Learning Design and Non-Formal Education Approach

3.1 Non-Formal Education in Youth Work

Within Erasmus+ youth actions, non-formal education is valued for its capacity to respond flexibly to young people's needs and to support learning through participation, dialogue, and real-life experience. Youth workers act as facilitators of learning processes rather than instructors, creating environments in which participants can explore, experiment and construct meaning collectively.
For creative and practice-based methods such as solargraphy, non-formal education provides an appropriate framework because it allows learning to emerge through doing, observing, and reflecting, rather than through prescriptive instruction.

3.2 Experiential Learning as a Design Principle

The learning design underpinning solargraphy-based activities is grounded in experiential learning, which emphasises learning through direct experience followed by reflection and application. Experiential learning theory highlights that knowledge is created through the transformation of experience, rather than through passive reception of information (Kolb, 2015).
In this approach, learning is understood as a cyclical process that involves:

- engaging in an experience;
- reflecting on that experience;
- drawing conclusions and insights;
- applying learning in new or extended contexts.

This model is particularly relevant for youth work, as it aligns with participatory values and supports the development of transferable competences. When participants are actively involved in creating, testing, and interpreting outcomes, learning becomes meaningful and context-specific rather than abstract.

3.3 Structuring the Learning Process

The learning process used in this toolkit follows a structured yet flexible sequence: learn → experiment → reflect → apply → transfer.
This sequence does not function as a rigid programme but as a guiding logic that can be adapted to different group sizes, durations, and contexts.

- Learn: Participants are introduced to key concepts, tools, and objectives. This phase establishes shared understanding and prepares participants for practice;
- Experiment: Participants engage in hands-on activities, testing methods, and exploring possibilities through practice;
- Reflect: Structured reflection enables participants to analyse both the process and the outcomes, individually and collectively;
- Apply: Learning is connected to concrete use, such as communication, awareness-raising or engagement activities;
- Transfer: Participants consider how learning can be adapted and applied in other contexts, particularly in their own youth work practice.

This sequence supports progressive competence development and encourages ownership of learning outcomes (Kolb, 2015).

3.4 Reflection as a Core Learning Tool

Reflection is a central component of non-formal education and plays an important role in transforming experience into learning. In creative youth work, reflection allows participants to articulate observations, question assumptions, and connect practice to broader themes such as environment, participation and responsibility.
Effective reflection does not occur automatically; it requires intentional facilitation. Youth workers are encouraged to use a variety of reflective methods, including:

- guided group discussions;

- small-group sharing;
- individual journaling;
- visual or creative reflection formats.

Reflection questions should focus on both process (How did we work? What challenges emerged?) and meaning (What does this experience tell us? Why does it matter?). This dual focus helps participants move beyond description towards interpretation and learning.

3.5 Role of the Youth Worker as Facilitator

In non-formal education settings, the youth worker's role is to facilitate learning, not to control outcomes. This involves designing supportive frameworks, encouraging participation and creating conditions in which learning can emerge organically.

Key facilitation responsibilities include:

- ensuring clarity of purpose and structure;
- supporting inclusion and equal participation;
- encouraging experimentation and accepting uncertainty;
- guiding reflection without imposing interpretations;
- linking activities to broader learning objectives.

When working with creative and time-based methods, facilitators must also manage expectations and help participants navigate delayed results and unpredictability. This requires patience, flexibility, and trust in the learning process.

3.6 Inclusion and Accessibility in Learning Design

Non-formal education places strong emphasis on inclusion and accessibility. Learning activities should be designed to accommodate different learning styles, abilities and levels of prior experience.

Creative methods support inclusion by offering multiple entry points into

learning. Participants can contribute through observation, discussion, making, interpretation or communication, depending on their preferences and strengths. The absence of technical prerequisites further reduces barriers to participation. Youth workers should remain attentive to group dynamics and adapt activities as needed to ensure that all participants feel able to engage meaningfully.

By grounding activities in non-formal and experiential learning approaches, youth workers can create educational processes that are participatory, reflective, and transferable, in our project, focusing on:

- preparing activities with young people;
- constructing cameras;
- facilitating image creation and interpretation.

The framework established provides the foundation for those practical steps, ensuring that technical activities remain embedded within meaningful learning processes.

Chapter 4

Preparing and Facilitating Solargraphy Activities with Young People

4.1 Defining the Purpose of a Solargraphy Activity

When planning a solargraphy activity with young people, the first step is to clarify why solargraphy is being used and what type of learning or engagement it is expected to support. Solargraphy is particularly suitable for activities that explore environmental change, the passage of time, observation of place, and human impact on natural or built environments.

Unlike short-term photographic exercises, solargraphy requires commitment over an extended period. Youth workers should therefore define objectives that align with this temporal dimension, such as developing patience and sustained attention, encouraging environmental observation, or supporting reflective dialogue about slow and often invisible processes. Clarifying purpose at the outset helps participants understand that the value of the activity lies in the process as much as in the final image (Trygg, 2017).

4.2 Introducing Solargraphy to Young People

When introducing solargraphy, explanations should remain simple and accessible, focusing on the relationship between light, time, and image rather than on technical detail. Young people benefit from understanding that solargraphy records the sun's movement over time and that the camera remains fixed in one place for days or weeks.

It is important to explain that results are unpredictable and that imperfections are a natural part of the process. Framing solargraphy as an experiment rather than a performance-based task reduces anxiety and supports curiosity. Youth workers can also highlight that solargraphy does not require expensive equipment or prior photographic experience, which supports inclusive participation (Renner, 2008).

4.3 Planning the Solargraphy Process

Effective facilitation of solargraphy activities depends on careful planning of the entire process, not only the moment of camera construction. Youth workers should plan the activity in clear phases:

- preparation and discussion;
- camera construction;
- placement and installation;
- observation and waiting period;
- retrieval and image interpretation.

Participants should be informed about the expected duration of each phase and the overall timeframe. Clear planning supports engagement and prevents frustration, particularly during the waiting period when no visible results are produced. Emphasising that waiting and observation are intentional learning components reinforces the educational value of the method.

4.4 Choosing and Discussing Locations

The choice of location is a critical facilitation moment in solargraphy activities. Youth workers should encourage young people to select locations deliberately and to reflect on what those places represent. Locations may include green spaces, urban areas, construction sites, polluted environments, or community landmarks.

Facilitation should prompt participants to ask questions such as:

- What changes might occur here over time?
- Why is this place important to us?
- What do we want to observe or communicate through this image?

Practical considerations must also be addressed, including safety, accessibility and the likelihood that the camera will remain undisturbed. According to guidance on pinhole and solar observation, stable placement and correct orientation towards the sun are important for successful results (Sellers, 2022).

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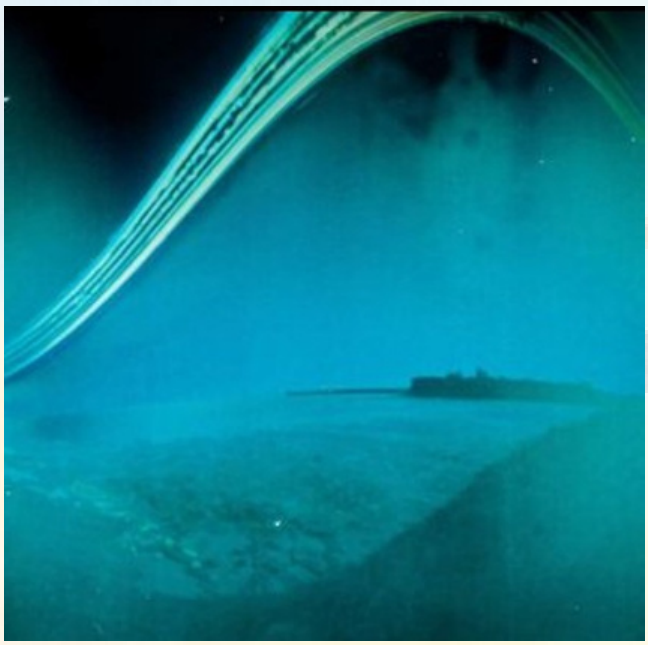
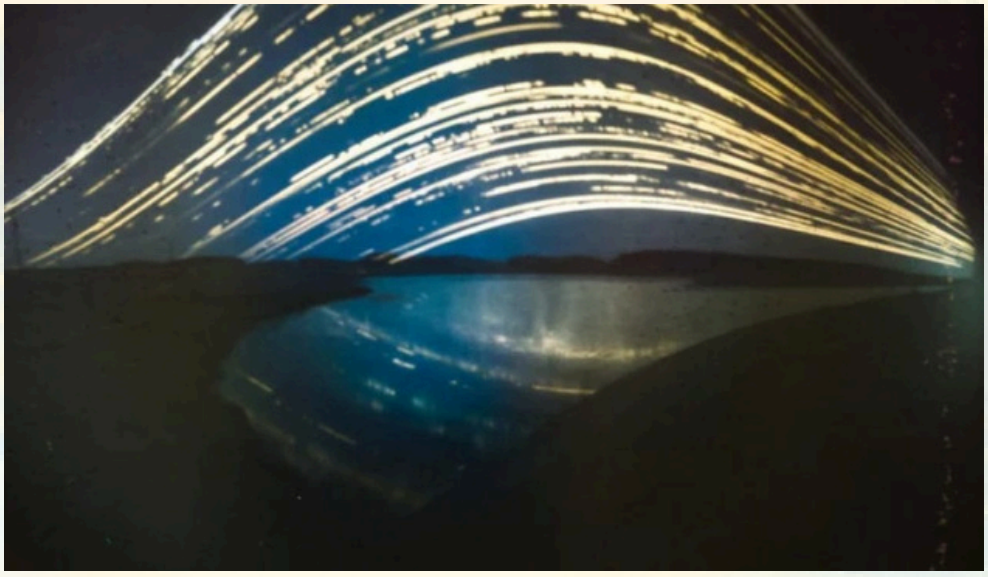




4.5 Facilitating Camera Installation

During camera installation, the youth worker's role is to support careful and collaborative work. Participants should be guided to:

- secure cameras firmly;
- protect them from moisture and excessive movement;
- record basic information such as installation date, location and orientation.

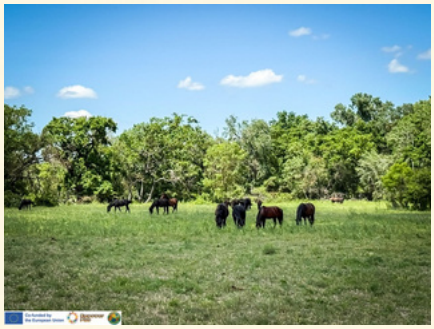
Youth workers should encourage participants to take responsibility for the cameras they install, reinforcing a sense of ownership. This stage also offers opportunities to discuss ethical considerations related to public space and environmental responsibility.

4.6 Supporting Engagement During the Waiting Period

The waiting period is a defining feature of solargraphy and should be actively facilitated rather than treated as inactive time. Youth workers can maintain engagement by:

- encouraging participants to keep observation notes;
- inviting predictions about how the image may develop;
- linking observations to environmental conditions such as weather or seasonal change.

This ongoing engagement supports reflection and reinforces the idea that learning continues even when no immediate visual output is available. Trygg (2017) notes that the extended duration of solargraphy encourages a deeper relationship with place and time, which can be particularly meaningful in educational contexts.



4.7 Retrieving and Interpreting Solargraphs

When retrieving cameras, youth workers should prepare participants for a range of possible outcomes. Images may appear faint, distorted, or unexpected. Facilitation should focus on interpretation rather than evaluation, encouraging participants to consider what the image reveals about light, time, and environmental change.

Discussions can explore questions such as:

- What patterns are visible?
- What might have influenced the result?
- How does the image relate to the chosen location?

This interpretative approach supports critical thinking and helps participants see value beyond technical perfection (Renner, 2008).

4.8 Linking Facilitation to Further Application

The facilitation phase concludes by preparing participants for the next steps, such as editing images, developing messages or using solargraphs in communication and awareness-raising contexts. Youth workers should help participants reflect on how the process and images connect to broader themes, including environmental responsibility and civic engagement.

By clearly linking facilitation to subsequent application, youth workers ensure continuity between learning, creative practice, and social engagement. This transition prepares participants for the technical and communicative focus of the following chapters.

Chapter 5

Building Solargraphy Cameras: Step-by-Step Practical Methods

5.1 Purpose of Camera Construction in Solargraphy Activities

Building the camera is a central learning moment in solargraphy activities. The construction process enables young people to understand the relationship between light, time, and image formation through direct experience. Unlike digital photography, where technology often obscures underlying processes, pinhole-based solargraphy makes photographic principles visible and tangible. From an educational perspective, camera construction supports learning through making, problem-solving, and collaboration. It also reinforces sustainability values by using recycled or low-cost materials, aligning the method with environmental awareness and responsible resource use (Trygg, 2017).

5.2 Core Components of a Solargraphy Camera

All solargraphy cameras, regardless of design, consist of the same essential elements:

- a light-tight container;
- a small pinhole aperture;
- photosensitive paper;
- a secure method of sealing and mounting.

The simplicity of these components allows for flexibility in design and encourages experimentation. Youth workers should emphasise that variations in materials and construction are acceptable and can lead to meaningful discussion about results.

5.3 Materials and Tools

Required materials

- aluminium cans, metal tins or similar containers;
- photosensitive paper;
- thin metal (aluminium foil or the can surface itself);
- strong tape (black electrical tape recommended);
- waterproof sealant;
- cardboard or opaque plastic (for backing and reinforcement).

Tools

- needle or fine pin;
- scissors;
- marker pen;
- gloves (recommended for safety).

The use of everyday and recycled materials lowers participation barriers and supports inclusive group work.

5.4 Method 1: Classic Aluminium Can (or plastic container) Solargraphy Camera

Step-by-step construction

1. **Prepare the can**

Clean and dry the aluminium can thoroughly. Ensure there are no sharp edges.

2. **Create the pinhole**

Using a fine needle, carefully make a small hole near the centre of the can wall. The hole should be round and as clean as possible. A smaller pinhole produces sharper solar trails but requires longer exposure (Sellers, 2022).

3. **Light-proof the interior**

Seal any seams or openings with black tape. The camera must be completely light-tight except for the pinhole.

4. **Insert the photosensitive paper**

This step must be carried out in darkness or under a photographic safelight (typically a red safelight designed for black-and-white photosensitive paper). Normal indoor lighting must be avoided, as it will expose and damage the paper. In the dark environment, place the photosensitive paper inside the can with the emulsion side facing the pinhole. The emulsion side is the slightly textured surface of the paper that reacts to light. Position the paper flat against the inner wall of the can and secure it with tape to prevent any movement during the extended exposure period.

5. **Seal the camera**

Close the opening and seal thoroughly with tape. Waterproofing is strongly recommended for long-term outdoor exposure.

6. **Label the camera**

Write the installation date, location, and orientation on the exterior.

This camera type is robust, easy to build and well suited for group activities.

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5.5 Method 2: Building and Using a Cardboard Pinhole Camera with Film

Constructing a pinhole camera from cardboard offers young people a concrete and engaging way to explore the fundamentals of analogue photography. This method combines manual construction with photographic experimentation and allows participants to work with a full roll of film, producing a sequence of images rather than a single exposure. The possibility to advance the film manually and capture multiple frames makes this approach particularly suitable for longer workshops or project-based learning activities.

Materials needed

To build this type of camera, participants will need a rigid cardboard box, black paint or black tape, aluminium foil, a fine pin, a roll of photographic film, adhesive tape, a ruler, and basic cutting tools such as scissors or a craft knife.

Step by step construction

1. The cardboard box must be transformed into a light-tight container. The interior should be painted black or completely covered with black tape to prevent unwanted light reflections. Any gaps or seams should be sealed carefully. This step is essential, as even small light leaks can affect the quality of the images produced.

2. Creating the pinhole

On one side of the box, a small square opening is cut at the centre. This opening is covered with aluminium foil, fixed securely with tape. Using a pin, a very small hole is made in the centre of the foil. This pinhole functions as the camera's lens, controlling the amount of light entering the box.

3. Installing the film mechanism

To enable the use of an entire roll of film, a simple winding system is created inside the box. Two supports are fixed at opposite ends of the interior: one holds

the unexposed film, while the other collects the exposed film. The film must pass flat behind the pinhole opening and remain aligned throughout the process. A basic external knob or handle can be attached to the take-up spool, allowing participants to advance the film manually between exposures.

4. Taking photographs

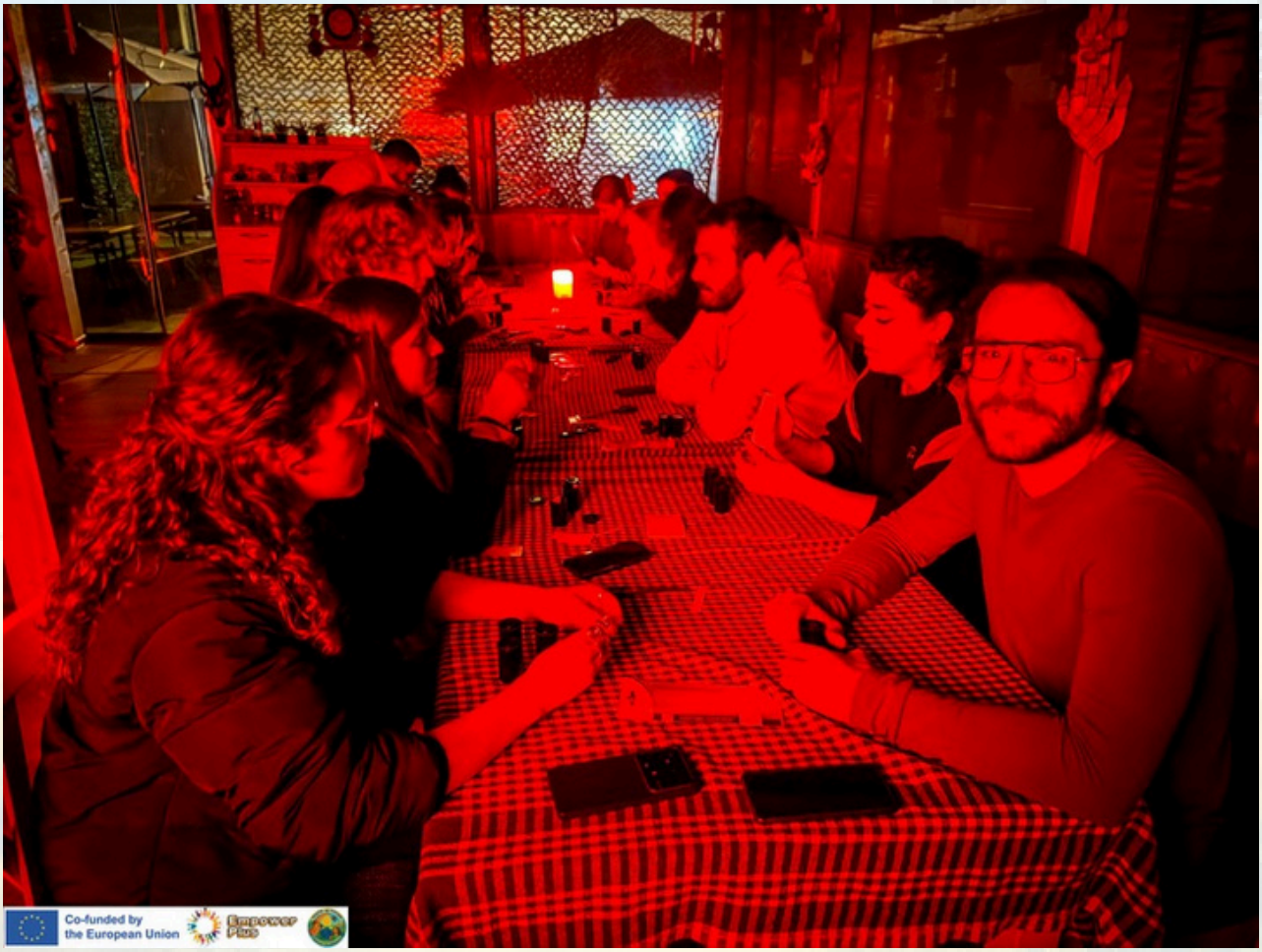
Before each exposure, the pinhole is covered with opaque tape or a small piece of black cardboard. To make an image, the cover is removed for a set period of time, allowing light to reach the film through the pinhole. Exposure times vary depending on light conditions and should be treated as part of the experimentation process. After exposure, the pinhole is covered again and the film is advanced to the next frame.

5. Completing and developing the film

Once all frames have been exposed, the film must be removed in complete darkness to avoid accidental exposure. The roll can then be developed either by facilitator or youth workers with appropriate facilities. Reviewing the developed images provides an opportunity for reflection on both the technical process and the creative outcomes.

Although solargraphy and pinhole photography with film rely on the same optical principles, they serve different pedagogical and practical purposes within youth work. Solargraphy is particularly effective for exploring long-term processes, environmental rhythms and patience, as it requires extended exposure times and delayed results. In contrast, using a pinhole camera with photographic film allows for shorter exposure cycles and multiple images within a limited timeframe, making it suitable for workshops where immediate feedback supports motivation and learning. When used together, the two methods create a balanced learning pathway: film-based pinhole photography introduces participants to image formation, framing and exposure through manageable experimentation, while solargraphy extends this understanding towards

reflection on time, change and environmental continuity. This complementary use supports differentiated learning needs and enables youth workers to adapt activities to both short-term sessions and longer project-based formats.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5.6 Pinhole Quality and Exposure Considerations

The quality of the pinhole has a direct impact on image clarity. Irregular or oversized holes may produce blurred or washed-out results. Youth workers should encourage participants to:

- use minimal pressure when piercing the hole;
- avoid tearing the material;
- inspect the hole against light.

Because solargraphy involves extremely long exposures, precision is less critical than in short-exposure pinhole photography. This makes the method appropriate for beginners (Renner, 2008).

5.7 Common Construction Issues and Solutions

Common challenges encountered in solargraphy include the absence of a visible image, overexposure, weak or faded solar trails, and damage caused by moisture. A lack of visible image is most often linked to light leaks in the camera body or to incorrect placement of the photosensitive paper, particularly when the emulsion side is not facing the pinhole. This issue can usually be addressed by improving the light sealing of the camera and carefully checking the orientation of the paper before installation.

Overexposed images typically result from an excessively large pinhole, which allows too much light to enter the camera over the extended exposure period. Reducing the pinhole diameter by using a finer needle generally leads to more controlled exposure and clearer solar paths. In contrast, faint or poorly defined solar trails are often caused by insufficient exposure time or limited sunlight, especially in shaded locations or during periods of frequent cloud cover. Extending the exposure period and reviewing the camera's orientation can help improve image density and clarity.

Another common issue is water damage, which may occur when cameras are insufficiently sealed against rain or humidity. Moisture can cause stains, uneven

exposure or degradation of the photosensitive paper. Applying waterproof tape or sealant and selecting a more sheltered installation site are effective preventive measures.

Importantly, these challenges should be understood as part of the experimental nature of solargraphy rather than as technical failure. Each issue offers an opportunity to analyse environmental conditions, refine camera construction and deepen understanding of the relationship between light, time and photographic process. Framing troubleshooting as a reflective practice supports experiential learning and encourages participants to approach solargraphy with curiosity, resilience, and critical awareness.

5.8 Safety and Ethical Considerations

Youth workers should ensure safe handling of tools, particularly needles and cutting instruments. Clear instructions and supervision are essential, especially with younger participants.

When installing cameras in public or natural spaces, ethical considerations (Heimbuch, 2023) include:

- avoiding damage to property or nature;
- respecting local regulations;
- ensuring cameras do not pose safety risks to others.

Discussing these aspects with participants reinforces civic responsibility alongside technical learning.

5.9 Preparing Cameras for Installation

Before moving to installation, cameras should be checked collectively:

- Is the pinhole clear and unobstructed?
- Is the container fully sealed?
- Is the photographic paper secure?

This collective review encourages peer learning and shared responsibility, preparing participants for the next phase of the solargraphy process.

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Chapter 6

Using Solargraphy Cameras and Producing Images

Solargraphy cameras are designed to operate autonomously over extended periods, recording the apparent movement of the sun as continuous trajectories across the image surface. The use of such cameras requires careful consideration of environmental conditions, exposure duration, handling procedures, and image preservation techniques (Renner, 2008).

6.1 Preparing the Camera for Outdoor Use

Before installation, each solargraphy camera must be inspected to ensure structural integrity and light-tight construction. Any unintended openings, loose components, or reflective interior surfaces may compromise the exposure by introducing stray light. The pinhole should be clean, circular, and unobstructed, as irregularities can affect image sharpness and the continuity of solar paths (Renner, 2008).

Weather resistance is a critical factor. Cameras intended for long-term outdoor exposure should be protected against rain, humidity, and temperature variation. Additional sealing using weather-resistant tape or protective coverings may be applied, provided that the pinhole remains unobstructed. These preparatory steps reduce the risk of premature failure and image degradation during extended exposure periods.

6.2 Site Selection and Environmental Context

The choice of installation site significantly influences both the aesthetic and informational qualities of the resulting solargraph. Cameras should be placed in locations that offer stability and minimise the risk of accidental displacement. Fixed structures such as fences, poles, or building facades are commonly used, as they provide consistent orientation throughout the exposure period.

In the Northern Hemisphere, south-facing orientations are typically preferred to capture the full arc of the sun across the sky. However, alternative orientations may be intentionally selected to investigate partial solar trajectories, seasonal transitions, or the interaction between sunlight and architectural forms. Environmental features such as trees, buildings, and terrain introduce interruptions in the solar paths, which can serve as visual indicators of human impact on natural cycles (Sellers, BBC Sky at Night Magazine).
Long-term environmental changes should also be considered. Vegetation growth, construction activity, or seasonal weather patterns may alter the visual field during the exposure period. Anticipating these factors encourages participants to think critically about time, change, and the dynamic nature of landscapes (Trygg, 2017).

6.3 Installing and Securing the Camera

Once a suitable site has been selected, the camera must be securely fixed in position. Stability is essential, as even minimal movement can disrupt the continuity of solar trails and reduce image clarity. Cameras may be attached using cable ties, screws, brackets, or strong adhesive materials, depending on the surface and context.
The camera should be positioned so that the pinhole faces the intended direction without obstruction. Care must be taken to avoid placing the camera in areas where it may be tampered with, removed, or damaged. In educational projects, participants are encouraged to document the installation process, noting the date, orientation, and environmental conditions at the time of placement. Such documentation supports later analysis and reflection (Renner, 2008).

6.4 Exposure Duration and Temporal Considerations

Solargraphy relies on extremely long exposure times, typically ranging from several days to several months. During this period, the camera remains sealed and unattended. Unlike conventional photography, there is no mechanism for adjusting exposure once the camera has been installed. The accumulation of light over time produces a visual record of daily and seasonal solar movement. Weather conditions play a significant role in shaping the final image. Clear days produce strong, well-defined solar trails, while cloudy or overcast conditions result in interruptions or gaps. Seasonal variation affects the height and curvature of the sun's path, allowing solargraphs to reveal changes in daylight duration and solar elevation over time (Trygg, 2017).

The extended exposure period encourages a reconsideration of photographic time. Rather than capturing a single moment, solargraphy visualises duration, repetition, and change, making it particularly valuable for environmental and reflective learning contexts.

6.5 Retrieving the Camera and Accessing the Image

At the conclusion of the exposure period, the camera must be retrieved carefully to avoid displacement or accidental opening. The camera should be opened in complete darkness or under a photographic safelight, as exposure to normal light will continue to affect the photosensitive paper.

At this stage, the image is already fully formed. Solargraphy images are typically not chemically developed, as the photosensitive paper has undergone continuous exposure over the entire installation period. The absence of chemical processing distinguishes solargraphy from traditional darkroom practices and reinforces its accessibility and low environmental impact (Lomography, n.d.).

6.6 Handling, Digitisation, and Image Stabilisation

Once removed from the camera, the photosensitive paper must be handled with care. Direct exposure to light will cause gradual fading; therefore, digitisation should take place as soon as possible. A flatbed scanner is commonly used to capture the image, producing a digital file that can be archived and shared.
It is important to note that the image obtained at this stage is a negative, as is characteristic of solargraphy and other pinhole-based processes using photosensitive paper. The scanned file is typically digitally inverted to produce a positive version of the image. This inversion reveals the solar trails and environmental details in a form that corresponds closely to conventional visual interpretation.
During scanning, some further exposure is unavoidable. However, this process allows the image to be preserved before significant degradation occurs. Basic digital adjustments, such as contrast correction or colour balance, may be applied to improve legibility, particularly for educational or exhibition purposes. Such adjustments should be minimal and transparent, maintaining the authenticity of the original exposure (Trygg, 2017).
Following inversion, the image may be further edited depending on its intended use. For educational or scientific contexts, adjustments are usually limited to tonal correction and clarity enhancement. For artistic, communicative or campaign-related purposes, solargraphy images may also be colourised or stylised. This flexibility allows solargraphy images to be adapted to different audiences and objectives while preserving their documentary and reflective value.

6.7 Interpreting Solargraphy Images

Interpreting solargraphs involves analysing both visual and contextual elements. The density, colour, and continuity of solar trails provide information about weather patterns, seasonal change, and environmental conditions. Interruptions

in the trails may correspond to periods of cloud cover or obstructions within the visual field.

Participants are encouraged to compare images taken at different sites or over different time periods, identifying patterns and variations. This comparative approach supports critical observation and reinforces connections between visual outcomes and environmental processes (Renner, 2008).

6.8 Educational and Reflective Applications

The process of using solargraphy cameras fosters patience, observation, and long-term engagement. By requiring participants to wait days or months before accessing results, solargraphy challenges fast-paced digital habits and promotes deeper reflection on time and change.

In educational settings, solargraphy can be integrated into project-based learning activities, environmental studies, or creative workshops. The images produced serve as both visual artefacts and discussion prompts, encouraging dialogue about natural cycles, human impact, and sustainable practices (AlternativePhotography.com).

6.9 Common Challenges and Practical Solutions

Solargraphy projects may encounter practical challenges, including camera displacement, water ingress, or overexposure. Addressing these issues through careful preparation, site selection, and documentation enhances the reliability of outcomes. Importantly, unexpected results should be treated as learning opportunities rather than failures, reinforcing an exploratory approach to image-making (Renner, 2008).

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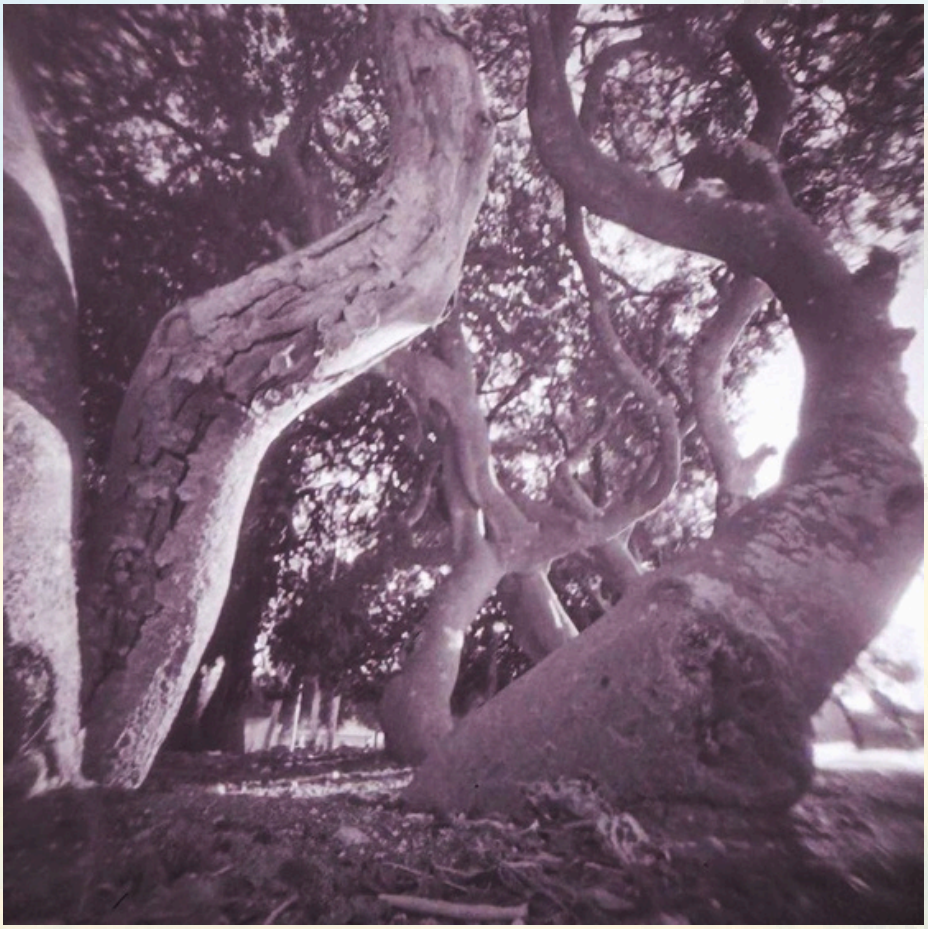

Chapter 7

Solargraphy as Art, Environmental Awareness, and Activism

Solargraphy represents a distinctive practice situated at the intersection of artistic experimentation, environmental observation, and civic reflection. By recording the cumulative movement of the sun over extended periods, solargraphy challenges dominant visual cultures shaped by speed, immediacy, and constant image production. Instead, it foregrounds duration, attentiveness, and environmental interdependence, offering a visual language particularly suited to contemporary ecological concerns (Renner, 2008).
Our project uses solargraphy as an artistic practice, a means of cultivating environmental awareness, and a form of reflective activism.

7.1 Solargraphy within Contemporary Artistic Practice

Within contemporary visual art and experimental photography, solargraphy aligns with practices that prioritise process, materiality, and environmental agency. Unlike conventional photography, which often emphasises control, precision, and instantaneous capture, solargraphy operates through extended exposure and relinquished authorship. Once the camera is installed, the practitioner no longer intervenes in the image-making process; instead, sunlight, weather, and time become active contributors to the final image (Renner, 2008). This redistribution of agency challenges traditional notions of artistic authorship. The photographer's role shifts from image controller to facilitator of conditions, allowing natural processes to inscribe themselves onto the photosensitive surface. As a result, solargraphs resist repetition and standardisation; each image is shaped by unique temporal and environmental circumstances. Such characteristics place solargraphy within broader artistic discourses that engage with chance, indeterminacy, and collaboration with non-human forces (Renner, 2008).

Visually, solargraphy occupies an ambiguous space between abstraction and documentation. The sun's trajectories appear as rhythmic arcs and lines that may be appreciated for their formal qualities, while simultaneously functioning as indexical records of astronomical and environmental phenomena. This dual character allows solargraphy to circulate across artistic, scientific, and educational contexts without being reduced to a single interpretative frame.

7.2 Visualising Time: Duration, Cycles, and Slowness

A defining contribution of solargraphy is its capacity to render time visible. Whereas most photographic practices compress reality into fractions of a second, solargraphy condenses days or months into a single image. This compression reveals time as layered, cyclical, and accumulative rather than linear and instantaneous (Trygg, 2017).

The visible solar trails correspond to the Earth's rotation and orbital movement, embedding cosmic rhythms directly into the image. Seasonal variation becomes legible through changes in the height and curvature of the sun's paths, while interruptions in the trails often reflect periods of cloud cover or atmospheric disturbance. In this way, solargraphs translate abstract temporal processes into perceptible visual structures.

From a cultural perspective, this emphasis on slowness positions solargraphy as a counter-practice to accelerated digital image cultures. The prolonged waiting period between camera installation and image retrieval introduces anticipation, uncertainty, and delayed gratification. These temporal conditions encourage reflective engagement and foster a deeper awareness of environmental rhythms that typically remain unnoticed in everyday life.

7.3 Solargraphy and Environmental Awareness

Solargraphy is inherently grounded in environmental observation. Each image is shaped by the interaction of sunlight with atmospheric conditions, seasonal

cycles, and the surrounding landscape. As such, solargraphs function as representations of space and also as visual traces of environmental interaction unfolding over time (Trygg, 2017).

The process of creating solargraphs encourages sustained attentiveness to place. Selecting an installation site requires consideration of orientation, surrounding structures, and long-term exposure conditions. Over time, practitioners often develop heightened sensitivity to changes in light, weather, and spatial context. The resulting images frequently reveal how built environments intersect with natural cycles, as architectural elements interrupt or frame solar paths.

Importantly, solargraphy does not communicate environmental awareness through didactic instruction or explicit messaging. Instead, it operates through experiential engagement. Understanding emerges through observation, waiting, and interpretation, allowing participants and viewers to form personal connections with environmental processes. This indirect approach supports deeper forms of awareness, grounded in lived experience rather than abstract information.

7.4 Solargraphy as Reflective Environmental Activism

Solargraphy can be understood as a form of reflective or environmental activism. Unlike slogan-driven activist strategies, solargraphy communicates through subtlety and ambiguity. Its images invite contemplation rather than confrontation, encouraging viewers to reflect on time, continuity, and environmental fragility (Renner, 2008).

The material modesty of solargraphy reinforces its activist potential. Cameras are often constructed from reused materials, and the absence of chemical development minimises environmental impact. These characteristics align the practice with principles of sustainability and care, positioning solargraphy as both a representational and ethical response to ecological concerns (Trygg, 2017).

When displayed publicly, solargraphs function as visual prompts rather than prescriptive statements. Their open-ended nature allows diverse interpretations, enabling audiences to engage emotionally and intellectually with environmental themes. In this sense, solargraphy supports activism by cultivating attentiveness and concern.

7.5 Place, Landscape, and Environmental Identity

Solargraphy is inherently site-specific. Each image is inseparable from the location in which it was produced, as the surrounding environment directly shapes the visual outcome. Trees, buildings, and terrain features interrupt solar paths, embedding spatial and cultural information into the image.

This site-specificity allows solargraphy to engage with questions of place and environmental identity. Solargraphs often reveal how natural cycles persist within urban or altered landscapes, highlighting both continuity and disruption. Over time, collections of solargraphs from different locations can form visual archives that document environmental conditions and spatial transformation.

Such archives contribute to collective memory by offering long-term perspectives that are frequently absent from short-term environmental observation. By visualising duration rather than isolated events, solargraphy supports reflection on sustainability, stewardship, and intergenerational responsibility (Sellers).

7.6 Emotional Engagement and Ecological Sensibility

Beyond its visual and conceptual dimensions, solargraphy engages emotional and reflective aspects of experience. The inability to preview or control the image introduces vulnerability into the creative process. When images are eventually revealed, they often challenge expectations, prompting reflection on uncertainty and unpredictability.

This emotional engagement is particularly relevant in environmental contexts,

where abstract data can create emotional distance. Solargraphy reconnects participants with natural rhythms, promoting attentiveness and ecological sensibility. Rather than overwhelming audiences with information, it creates space for contemplation and personal meaning-making, supporting empathetic relationships with the environment.

7.7 Positioning Solargraphy across Art, Awareness, and Activism

Solargraphy's strength lies in its capacity to operate simultaneously across artistic, environmental, and civic domains. As an artistic practice, it challenges conventions of photographic authorship and temporality. As a means of environmental awareness, it visualises natural processes through direct engagement with place and time. As activism, it promotes sustainability, care, and reflection through accessible means.

By occupying this intersection, solargraphy resists rigid categorisation. It does not replace scientific research, formal education, or organised activism, but complements them by offering an experiential and reflective mode of engagement. This positioning makes solargraphy particularly relevant in interdisciplinary contexts where art, environmental awareness, and civic responsibility intersect.

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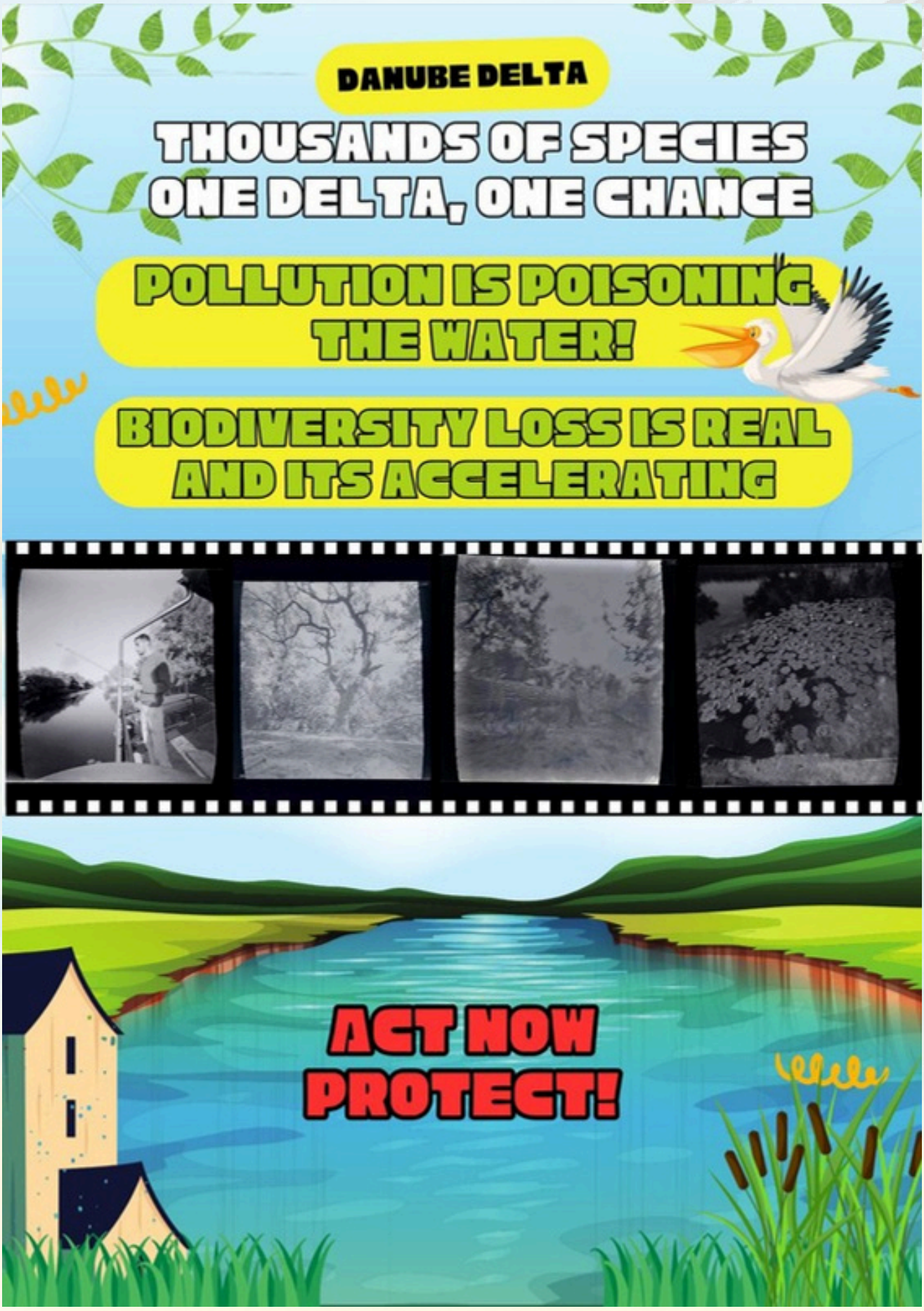

Chapter 8

Designing and Implementing Environmental Campaigns with Solargraphy

Solargraphy offers significant potential as a core component of environmental campaigns that aim to raise awareness and also to influence attitudes, behaviours, and collective responsibility towards environmental protection. Its visual language, rooted in time, natural cycles, and environmental interaction, provides a powerful foundation for campaigns that combine artistic expression with clear messages and concrete actions. Solargraphy can be strategically integrated into environmental campaigns, focusing on design principles, message development, and the translation of visual engagement into meaningful environmental action.

8.1 Solargraphy as a Campaign Tool

Environmental campaigns increasingly rely on visual strategies to communicate complex ecological issues. Solargraphy contributes a distinctive approach by visualising long-term environmental processes rather than isolated events. This temporal depth differentiates solargraphy from conventional environmental imagery, which often focuses on immediate impact or crisis representation.
As a campaign tool, solargraphy functions simultaneously as:

- a visual anchor that attracts attention through aesthetic and conceptual depth;
- a narrative device that communicates environmental continuity and change;
- a reflective medium that encourages audiences to reconsider their relationship with time, consumption, and natural cycles (Renner, 2008).

Because solargraphy images are inherently linked to specific locations and timeframes, they are particularly effective in place-based campaigns addressing local environmental concerns while remaining relevant to broader global issues.

8.2 Defining Campaign Objectives and Environmental Messages

Effective environmental campaigns require clearly articulated objectives. When integrating solargraphy, campaign goals may include raising awareness of seasonal change, highlighting human impact on natural cycles, promoting conservation practices, or encouraging behavioural change related to sustainability.

Solargraphy images alone do not impose a fixed meaning; therefore, intentional message framing is essential. Images should be accompanied by carefully designed textual elements that contextualise the visual content and guide interpretation. These may include short explanatory captions, reflective questions, or concise environmental statements that connect the image to broader ecological themes (Trygg, 2017).

Messages can address issues such as:

- the visibility of natural cycles within urban environments;
- the long-term consequences of environmental neglect;
- the contrast between natural rhythms and accelerated human activity;
- the importance of conservation and sustainable practices.

By combining visual beauty and ambiguity of solargraphy with targeted messaging, campaigns can balance openness of interpretation with clarity of purpose.

8.3 Integrating Solargraphy with Concrete Environmental Actions

To move beyond awareness and towards impact, solargraphy-based campaigns should be linked to concrete environmental actions. Visual engagement serves as an entry point, while accompanying activities translate reflection into practice.

Such actions may include:

- tree planting or habitat restoration initiatives linked to specific solargraph

- locations;
- community clean-up activities associated with campaign exhibitions;
- commitments to reduce energy consumption or waste following campaign events;
- participatory environmental monitoring or observation activities.

The strength of solargraphy lies in its capacity to make long-term processes visible. When combined with tangible actions, it reinforces the idea that environmental responsibility requires sustained commitment rather than one-off interventions. This integration supports behaviour change by aligning reflection with practice.

8.4 Changing Mentalities through Long-Term Engagement

One of the key challenges of environmental campaigns is moving audiences beyond short-term emotional reactions towards lasting changes in mindset. Solargraphy supports this objective by emphasising duration, patience, and continuity. The extended exposure period inherent to the process mirrors the timescales of environmental change, encouraging audiences to think beyond immediate outcomes.

Campaigns that incorporate solargraphy can be designed as longitudinal experiences, unfolding over days or months. The delayed revelation of images builds anticipation and reinforces the idea that environmental processes operate gradually. This temporal structure contrasts sharply with fast-paced media cycles and supports deeper cognitive and emotional engagement (Trygg, 2017).

By repeatedly encountering solargraphy images and related messages over time, participants are more likely to internalise environmental values and reconsider habitual behaviours.

8.5 Audience Engagement and Participation

Solargraphy-based campaigns benefit from participatory approaches that involve audiences not only as viewers, but also as contributors. Participation may include involvement in camera placement, site selection, observation, or collective interpretation of images. Such engagement fosters a sense of ownership and responsibility towards both the images and the environmental issues they represent.

Participatory elements strengthen campaign effectiveness by:

- increasing emotional investment;
- encouraging peer-to-peer dialogue;
- reinforcing collective responsibility for environmental outcomes.

Importantly, participation does not require technical expertise. The simplicity of solargraphy enables inclusive engagement across age groups and social contexts, supporting broad community involvement in environmental discourse (Lomography, n.d.).

8.6 Communication Channels and Visual Dissemination

Solargraphy campaigns can be disseminated through multiple channels, including exhibitions, public installations, educational spaces, and digital platforms. Each channel offers distinct opportunities for engagement and message reinforcement.

In physical spaces, large-format solargraph prints encourage slow viewing and reflection. In digital environments, solargraphy images can be combined with short texts, participant testimonies, or environmental facts to extend campaign reach. However, care should be taken to preserve the contemplative nature of the images, avoiding over-simplification or excessive visual saturation.

Consistency across communication channels is essential. Visual identity, tone of messaging, and environmental values should remain coherent to strengthen campaign recognition and impact (Sellers).

8.7 Ethical and Responsible Campaign Design

Environmental campaigns carry ethical responsibilities, particularly when operating in public or natural spaces. Solargraphy installations should respect ecosystems, avoid physical damage, and comply with local regulations. Transparency regarding campaign intentions and respect for community contexts contribute to responsible practice.

Ethical considerations also extend to messaging. Campaigns should avoid alarmism or guilt-based communication, instead promoting empowerment, reflection, and shared responsibility. Solargraphy supports this approach by offering visual narratives that encourage contemplation, curiosity, and invite action.

8.8 Solargraphy as a Catalyst for Environmental Culture

Beyond individual campaigns, solargraphy contributes to the development of an environmental culture grounded in observation, patience, and respect for natural processes. By integrating solargraphy into environmental campaigns, practitioners support cultural shifts that value long-term thinking over short-term gains.

The combination of visual depth, reflective engagement, and action-oriented messaging positions solargraphy as a catalyst for sustainable thinking. When embedded within coherent campaign strategies, it becomes a tool for communication and also for cultural transformation.


leave no traces,
only memories
Wild nature doesn't need us
we need wild nature
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Chapter 9

Project-Based Examples and Sustainability

Solargraphy can be effectively integrated into educational, artistic, and environmental projects as a flexible methodology that combines visual exploration with reflective learning and civic engagement. When applied within project-based frameworks, solargraphy supports experiential learning, environmental awareness, and the development of transferable competences.

9.1 Solargraphy in Project-Based Learning and Environmental Initiatives

In project-based contexts, solargraphy functions as both a creative process and a pedagogical tool. Its value does not lie solely in the production of images, but in the sequence of activities it generates: observation, experimentation, reflection, interpretation, and the fostering of awareness that can support positive behavioural change in relation to environmental protection. These stages align well with non-formal education approaches, where learning is experiential and participant-centred.

Solargraphy activities may be implemented over different timeframes and adapted to diverse contexts and projects. They can be introduced through workshops or training or expanded into longer initiatives, campaigns or community actions. This flexibility allows practitioners to respond to contextual constraints while maintaining methodological coherence (Renner, 2008).

Within environmental initiatives, solargraphy supports learning about natural cycles, light, time, and place. By engaging directly with environmental conditions, participants develop awareness that emerges from experience rather than instruction. This makes solargraphy particularly suitable for projects addressing environmental responsibility, conservation, and sustainability (Trygg, 2017).

9.2 Sustainability and Long-Term Impact

Solargraphy supports sustainability on multiple levels. From an environmental perspective, the method relies on minimal resources, reused materials and natural light, and avoids chemical processing. From an educational perspective, the skills and knowledge acquired are transferable and reusable across projects. Importantly, sustainability is reinforced when solargraphy is embedded in professional practice. Youth workers, educators and facilitators who acquire methodological competence can integrate solargraphy into future initiatives, ensuring continuity and long-term impact. In this way, solargraphy contributes not only to individual projects, but to broader cultures of environmental awareness and responsible practice (Sobota and Mašek, 2018).

9.3 Solargraphy Training in the Danube Delta

The Danube Delta as a Learning Environment

The Danube Delta is one of Europe's most significant wetland ecosystems, recognised for its biodiversity, dynamic landscapes and ecological sensitivity. Shaped by the interaction of water, light and seasonal cycles, the Delta offers a powerful area for environmental education and reflective learning.
Organising a solargraphy training in the Danube Delta provided participants with direct exposure to a landscape where natural processes are highly visible and continuously evolving. The setting reinforced the relevance of solargraphy as a method grounded in observation, time and environmental interaction, while emphasising the importance of conservation and responsible engagement with fragile ecosystems.

9.4 Participant Experience and Methodological Learning

During the training, participants explored ecology and solargraphy through a combination of theoretical input, hands-on experimentation, and guided observation. Activities included camera construction, site selection, orientation and initial exposure testing, allowing participants to understand how solargraphy operates in real environmental conditions. This practical engagement was complemented by facilitated discussions that linked technical experimentation with broader environmental and ecological themes.

The experience enabled participants to reflect on the relationship between light, landscape and time, and to consider how solargraphy can be used as a tool for environmental education and activism. Through direct interaction with natural surroundings, participants deepened their understanding of ecological processes, seasonal cycles and the fragility of natural ecosystems. Our training prioritised methodological understanding and professional learning, equipping participants with the confidence to apply the method in future projects. In addition, participants explored the role of active civic engagement in addressing climate and environmental challenges, recognising solargraphy as a visual and reflective approach that can support awareness-raising, dialogue and positive behavioural change related to environmental protection.

By integrating creative experimentation with environmental learning, the training strengthened participants' motivation to use solargraphy in youth work, educational activities and environmental activism, adapting the method to different contexts, audiences and project objectives.

9.5 Exhibition and Participant-Led Environmental Campaigns

An important component of the project was the organisation of a public exhibition showcasing the solargraphy process and outcomes. The exhibition provided a platform for participants to share their work, communicate environmental messages and engage wider audiences in dialogue about natural cycles and conservation.

Building on this experience, participants developed campaigns that combined solargraphy visuals with messages and actions aimed at promoting environmental responsibility. These campaigns demonstrated how solargraphy can function as a catalyst for civic engagement, supporting awareness-raising and encouraging behavioural change.
Through these activities, participants moved beyond experimentation towards active application, reinforcing the link between visual exploration, communication and environmental activism.

9.6 Reflections

This Toolkit demonstrates how solargraphy can be integrated into project-based frameworks that support learning, evaluation and sustainability. The general principles outlined illustrate the adaptability of the method, while the Danube Delta example highlights its relevance within sensitive environmental contexts. By combining methodological learning, reflective evaluation and opportunities for dissemination and activism, solargraphy projects can generate meaningful and lasting impact. Solargraphy supports not only artistic projects, but also the development of environmental awareness, professional development, and civic responsibility.

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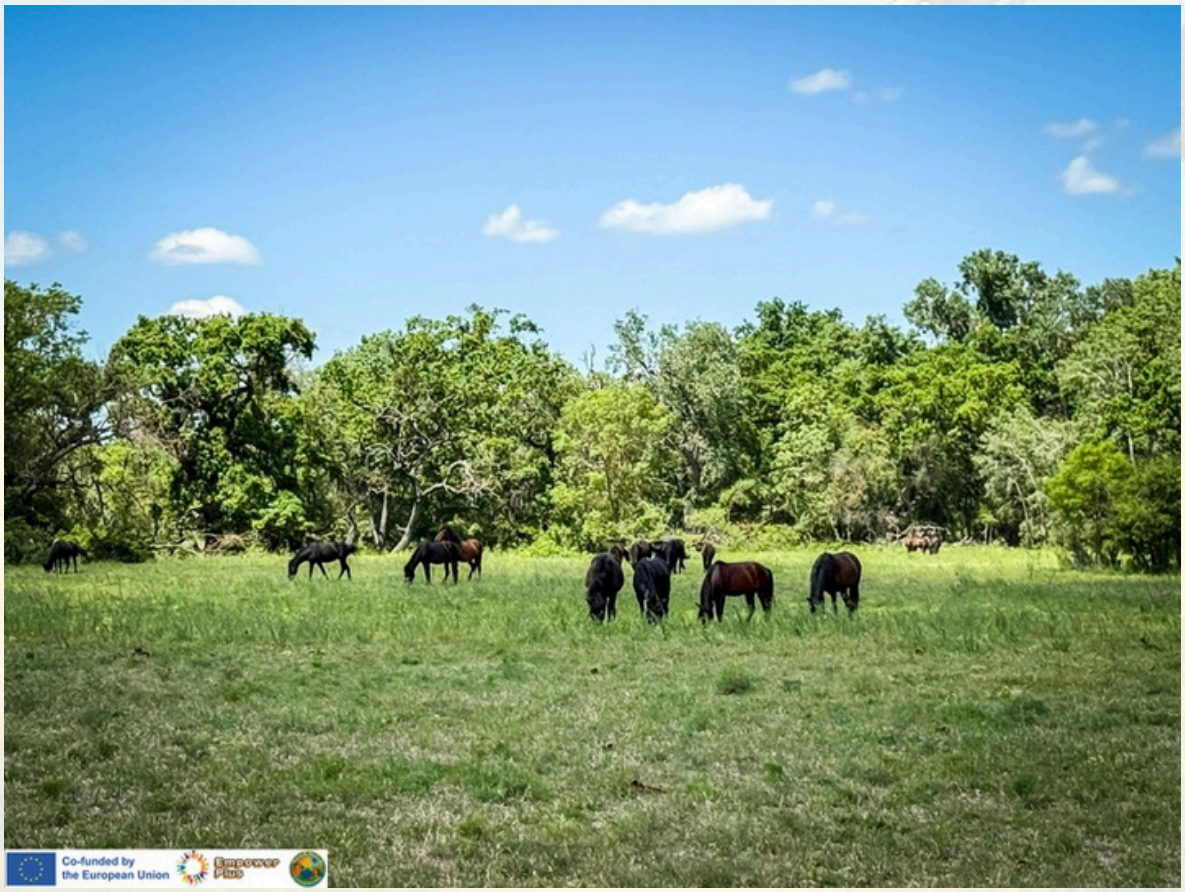
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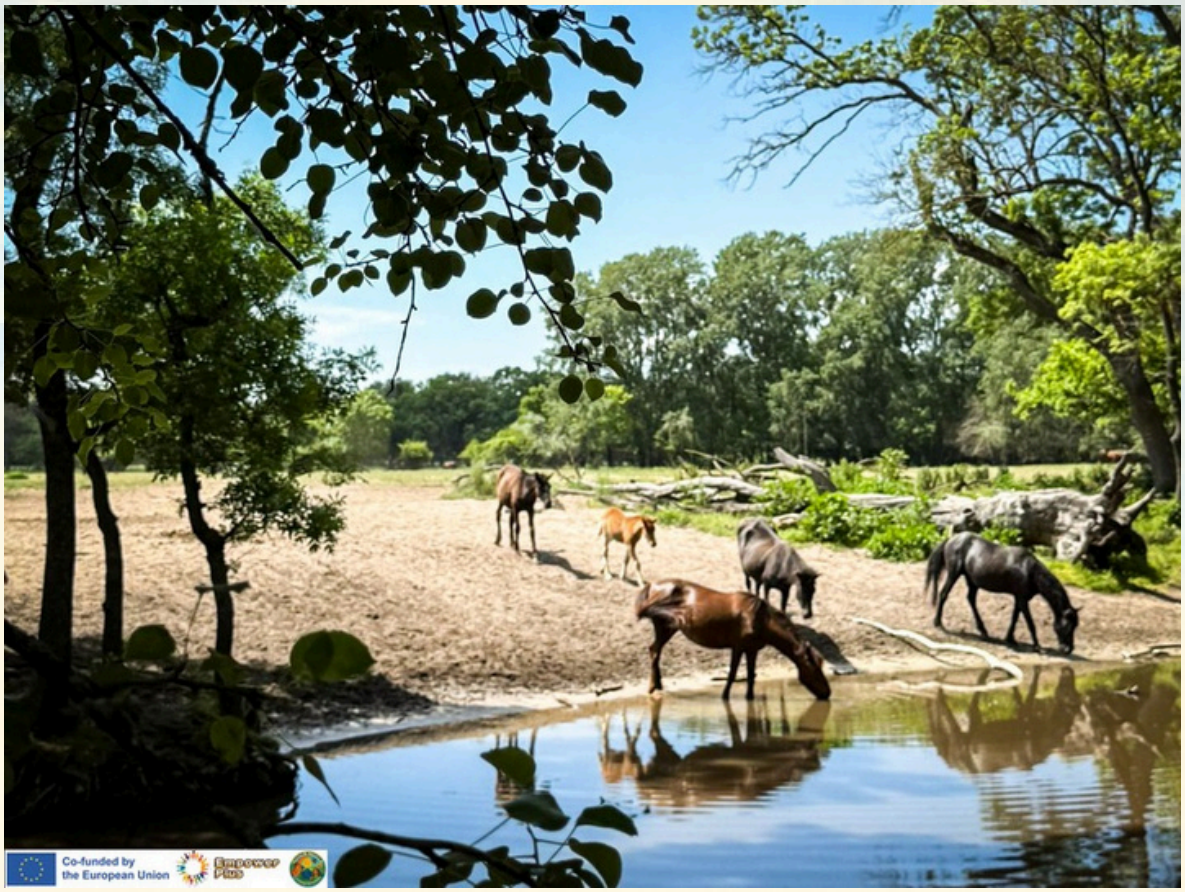
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