



PR FOR PLANET EARTH™

A REPORT ADVOCATING
FOR SOCIALLY RESPONSIBLE
SUSTAINABLE DEVELOPMENT

NATURAL INTERIOR DAYLIGHT BRIGHTENS CRAFT STUDIOS IN NY STATE CAMPHILL VILLAGE

ENEREF INSTITUTE EXAMINES HOW NATURAL INTERIOR DAYLIGHT
SAVES ON ENERGY WHILE CREATING A HEALTHY WORK ENVIRONMENT

Founded in 1961, Camphill Village in Copake, NY was part of a movement to change how society treats people with special needs. Because Camphill Village encourages and honors the individuality and creativity of its residents with special needs, a large-

scale construction was planned for their four diverse, onsite craft studios. The goal of the two new buildings was to further Camphill's mission to provide an environment where each resident has the opportunity to achieve his or her full potential.

“IT’S CERTAINLY A NICE ADD-ON TO SAY THAT WE ARE A SUSTAINABLE COMMUNITY, TOO”

Development Director Nancy O’Leary

A key design element of the new studio buildings was the use of natural interior daylight as a primary light source.

CAMPBILL COMMUNITY VILLAGE IN UPSTATE NEW YORK

On 615 acres of wooded hills in rural upstate New York, residents and volunteers live and work together as equals in extended families in homes throughout the Village.

“We are an intentional community that includes people with special needs,” explained Nancy O’Leary, Camphill Village Director of Development.

As part of our Natural Interior Daylight Initiative, Eneref Institute interviewed the following key participants from Camphill Village for this advocacy report: Jos Smeele, Director of Infrastructure; Rose Airing, Weavery Manager; Ted Sumners, Stained Glass Studio Manager; and Nancy O’Leary, Development Director. Eneref also interviewed architect Andrea Kowalski and David Jordan, Foreman for McClure Construction.

The Village comprises more than fifty buildings, including twenty family homes. Since its construction in the early ‘60s, Camphill Village has continued to grow and evolve.

“In 2010 we completed the master plan where we identified what parts of our infrastructure needed facelifts,” said Smeele.

Two new craft studio buildings were constructed featuring skylights and windows as their primary light source. One building was built for the stained glass and weavery studios, and the other houses the bookbinding and candle making studios.

HOW SKYLIGHTS BENEFIT THE STUDIOS

“The whole idea with this new project was to do a studio cluster, where the studios would be brought together,” said Andrea Kowalski, architect for the project as well as the lighting designer of the natural interior daylight for the buildings. “I’m really excited about this design.”

Describing the benefits of the skylights, Ted Sumners, the

stained glass Studio Manager, explained how they vastly improve the ability to appreciate the subtle qualities of the stained glass.

“You just don’t quite see what’s in the stained glass until you have it against the bright light of the skylights.”

Unlike electric lighting, sunlight provides the full visible light spectrum, illuminating colors and textures naturally.

“A lot of the glass that we get is antique or hand-blown, so it’s not uniform—it might be a little thinner, or have a bubble, or a little bit more coloring, or so-called impurities that make it look interesting. It’s unique to every piece of glass.”

Furthermore, Rose Airing, the Weavery Manager, described the benefits of the full-spectrum of daylight’s color for the weaving studio as well.

“We use natural fabrics—mostly wool from sheep, some merino, some chenille, a little bit of cotton. And we dye it ourselves,” said Airing. “In the right kind of natural light we can see a more realistic picture of all our colors, the slight differences. It’s inspirational to our creative process.”

“The decision to use daylighting was almost automatic for us—it’s in our nature,” explained Jos Smeele, Director of Camphill



CANDLE MAKING STUDIO

VELUX venting skylights illuminate the candle making studio without the need for electric lighting.

Infrastructure. “We’re very rural, we live in a beautiful area, so we make use of daylight as much as we can in all the construction we do,” he said.

Architect Kowalski specified VELUX skylights into the design of the buildings, providing a connection to the outside world while allowing natural daylight to illuminate the interior space.

“We also wanted the views of the trees, the grass and natural landscape,” said Kowalski.

By establishing a connection between the outside and the interior of the buildings, natural

interior daylight creates a less-confined feeling while allowing building occupants to assess weather and the passage of time naturally.

“We’re still connected to what’s going on outside, you’re not shut off,” said Camphill’s Ted Sumners. “You notice when the clouds pass over or the thunderstorm rolls in from down the valley, it just improves your relationship with what you’re doing.”

HUMAN PHYSIOLOGY

Many aspects of human physiology and psychology are directly affected by exposure to

natural daylight, according to studies of human performance on behalf of the California Energy Commission’s Public Interest Energy Research (PIER) program by Heschong Mahone Group. Exposure to light in the morning, for instance, increases levels of alertness at the beginning of the day.

Circadian rhythms, the natural 24-hour cycles that govern many biological processes, are regulated in part by exposure to daylight. Circadian rhythms also control sleep/wake cycles, alertness and performance patterns. Inadequate light

CIRCADIAN RHYTHMS ARE REGULATED IN PART BY EXPOSURE TO DAYLIGHT.

Circadian rhythms are the natural 24-hour cycles that govern many of our biological processes.

exposure can disrupt these rhythms, causing a negative effect on performance, alertness, health, and safety.

THE DECISION PROCESS FOR ADDING NATURAL INTERIOR DAYLIGHT

“Our goal has always been, from concept design on, to get that natural light inside of the space,” said architect Kowalski.

Smeele added, “Everybody agreed to daylighting straight away—it all goes hand in hand with our wish to use as little artificial lighting as possible.”

To maximize the available daylight entering the buildings, ample consideration was given to the landscape and geography. External reflections and obstructions can influence the amount of daylight reaching the interior of a building, so it is important that the design and placement of skylights are part of a holistic process where the location and surroundings are evaluated.

“The location is pretty wooded, we didn’t want to take down many of the maples, but we wanted the light as well,” said Kowalski.

Because sun’s light varies with different sky conditions and

throughout the course of the day and season, the orientation of the building sites were considered in the construction process.

The two craft studio buildings are nearly identical, with a combined square footage of 8,000 square feet; the stained glass and weavery studio is 4,500 sq. ft. and the book binding and candle making studio is 3,500 sq. ft.

\$1.6 million was budgeted for construction. The buildings house one studio activity on each side of a central bathroom, office, and corridor space.

“It feels energetic, uplifting, joyful even,” said Kowalski.

VENTING SKYLIGHTS WERE KEY TO ADDING INTERIOR DAYLIGHT

The architect’s complete daylight plan specified skylights installed in the buildings’ metal roofs, using a combination of several models of VELUX skylights ranging in size from 30”x30” to 46”x46”. The studios each have between three and five skylights, depending on the size and light requirements of each studio.

All the VELUX skylights come with Clean, Quiet, and Safe advanced Low E3 laminated

Cardinal glass. This glass reduces unwanted outside noise by up to 25% more than standard double pane glass. VELUX provides a ten-year warranty on the solar panels and a ten-year, “no-leak warranty” on the skylights.

Each building has several venting skylights, which use a solar PV-powered, motorized venting system to open and close the skylights. The venting skylights also have fixed protective screens.

The sun shading system also uses solar PV-power. Motorized blinds adjust the amount of light allowed into the room.

The venting system and the sun shading system are powered by 4” by 16” solar PV panels mounted on the roof beneath each skylight, providing power via a small battery.

Venting skylights offer passive cooling that can reduce HVAC loads of a building by limiting temperature increases due to solar heat radiation, or solar gain. Pairing this benefit of the skylights with energy-efficient design throughout the building lowers the costs of heating and cooling the buildings while providing interior light.



STAINED GLASS STUDIO

The subtle impurities in the hand-blown glass are best seen through the skylights.

RESIDENTS AND STAFF EXPRESS “DELIGHT” AND REPORT A SUCCESSFUL INSTALLATION

The skylights were programmed to open automatically to provide ventilation during a specific time of the day via a unifying VELUX INTEGRA wireless controller that can operate any or all of the skylights, with manual or automatic opening.

“We wanted to minimize the mechanics of the room,” said Kowalski. “We don’t have to use the air-conditioning very much. We can pop open the skylights and get a nice cool space.”

“It’s very simple, it’s like a mini iPad-type of controller,” said David Jordan, Foreman for McClure Construction. “If you can use an iPad you can use the controller.”

Eneref Institute found everyone interviewed for this report to be satisfied with the skylights installed in the new buildings.

“We’ve had days where we didn’t have the lights on and nobody noticed that they weren’t on,” said Airing.

Explains Kowalski, “I knew the ceilings were going to be beautiful with those light shafts

cut through, and they are,” said Kowalski. “It’s a really nice space.”

Camphill Village Director of Development Nancy O’Leary said, “We are really a place for people with special needs, but it’s certainly a nice add-on to say that we are a sustainable community, too.”

To learn about Camphill Village, visit www.camphillvillage.org

Research and reporting compiled and provided by Eneref Institute. Additional information generously provided by VELUX USA, Camphill Village, architect Andrea Kowalski and McClure Construction.



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***RIGHT TO DAYLIGHT IS A CAMPAIGN
TO PRESERVE OUR NATURAL RESOURCES, AND ENJOY
NICER SPACES IN OUR HOMES AND BUILDINGS.***

ENEREF INSTITUTE launched the Right To Daylight to champion solutions in line with our mission that deliver sound ideas to significant market influencers. The initiative is designed to encourage responsible behavior within public and private organizations, municipalities and corporations by offering common-sense

solutions that achieve effective results. Our Virtual Campus is the repository for our Advocacy Reports and Web Forums. **Visit eneref.org.**

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A hand is shown holding a stalk of wheat against a sunset background. The hand is positioned in the center, with the fingers gently grasping the wheat. The background is a warm, golden light from the setting sun, creating a soft glow. The wheat stalks are in the foreground, some in focus and some blurred. The overall mood is peaceful and natural.

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the opportunity to improve
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Our initiatives encourage organizations to grow sustainably and act responsibly by raising awareness for clear, specific solutions that offer an efficient use of natural resources, demonstrate social responsibility and foster a peaceful, earth-friendly economy.

We launch initiatives designed to encourage the best that commerce has to offer—for people and for our planet. We promote the idea that being resource-efficient and socially responsible, is also profitable. Our Advocacy Reports demonstrate the benefits of successful solutions.

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