LAND ART
GENERATOR
landartgenerator.org

RENEWABLE ENERGY CAN BE BEAUTIFUL

Designing with Energy

NV STEAM 2023 Conference

Art+Energy Camp
Objectives and Goals

Learn the basics of the science of energy and its production and consumption in society

Learn about different types of energy generation technologies and their traits

Understand the design engineering process

Learn about the social and environmental issues at stake in the context of energy

Discover the rich history of art in public space

Comprehend interdisciplinary information about art and science

Apply aesthetic decisions through the design process

Gain hands on experience designing and building a creative renewable energy installation

Have either a fully built solar sculpture or a functional prototype by the end of the camp

Pre-Camp Prep

(this could take 6 months to a year)

Fundraising

Cost: A 15-module solar mural artwork might cost around $50,000. This includes the cost of the completed solar installation net-metered to the school, as well as the cost of the facilitation, community engagement events, field trips, artist and consultant fees, and detailed technical design.

Right now there are many funding opportunities, especially in the wake of the passage of the Inflation Reduction Act of 2022. One such opportunity is a Department of Energy grant for energy efficiency and renewable energy projects for public school facilities.

https://www.energy.gov/scep/grants-energy-improvements-public-school-facilities

Site and Site Partner

Find a site and site partner suitable for a solar energy artwork. Ideally it is south or west facing and free from shade. You will want to consider how the electricity is going to be used and where (and if) it will interconnect with the grid. If it is off-grid, identify the location for a safe battery bank. If it will be grid-connected make sure the building's electrical meter and wiring is up to date for net-metering capability. Some sites to consider are schools, community centers, senior centers, parks, cultural centers, homeless shelters, etc. The chosen site might determine the participants. For example, if developing an artwork for a homeless shelter, the camp participants might be the users of the facility.

Purchase Technology

Purchase the solar technology and other materials to be used in the camp.

Partnerships

Develop the necessary partnerships for implementing the project and secure funding.
At a minimum you will need funding partners, camp participants, a site partner, a solar installer, an engineer, an architect, an artist, and someone to lead the camp.

Curriculum

Put together the curriculum for the camp. We recommend at minimum the following lessons which are available on the Land Art Generator Initiative website as open source content:

- Art outside of the gallery
- Basics of design
- Energy fundamentals
- Sketching in context
- Making a prototype

Field Trips

Determine locations and logistics for field trips.

Guest Presenters

Invite guest presenters for lessons that you feel are relevant in the local context.

Week 1: Exploring the Existing Energy Landscape (Understanding the Challenge)

Week one focuses on understanding the landscape of energy generation and consumption in your region, while also understanding the global environmental and social issues around energy generation. Field trips to local power generation facilities provide opportunities to explore a mix of fossil-fuel and sustainable energy examples, and talk about the social and environmental impacts of each.

Week 2: Sketching Solutions

Concept generation in week two explores cultural context and creative possibilities. Exercises can find inspiration through botanical and landscape photographs, visits to existing public art, conversations exploring the power of storytelling, and art-making in a public park with natural or recycled materials. Key words and ideas develop into concepts, which lead to sketches and 3D forms.
After this first round of ideation invite an architect and engineer to provide design feedback.

Week 3: Detailed Design

The concepts move forward from sketches into more refined 3D models and/or computer models. By the end of week three, the design should be resolved and the group should be coalescing around one concept and form that they will collaborate on.

Week 4:
Site Preparation & Engineering Considerations

The engineer and architect visit the camp, inspect the existing site conditions and soils, and offer advice for the design based on wind loads on the panels, solar orientation, and other factors. At the end of week four, the architect and engineer have started translating the concept into working drawings for fabrication.

Week 5: Installation

The detailed design drawings are presented to the camp participants to show how design schematics get translated into a language that metal fabricators and contractors can understand clearly without questions or room for interpretations. Campers participate in conversations with metal fabricators and the solar installer as they begin their work.

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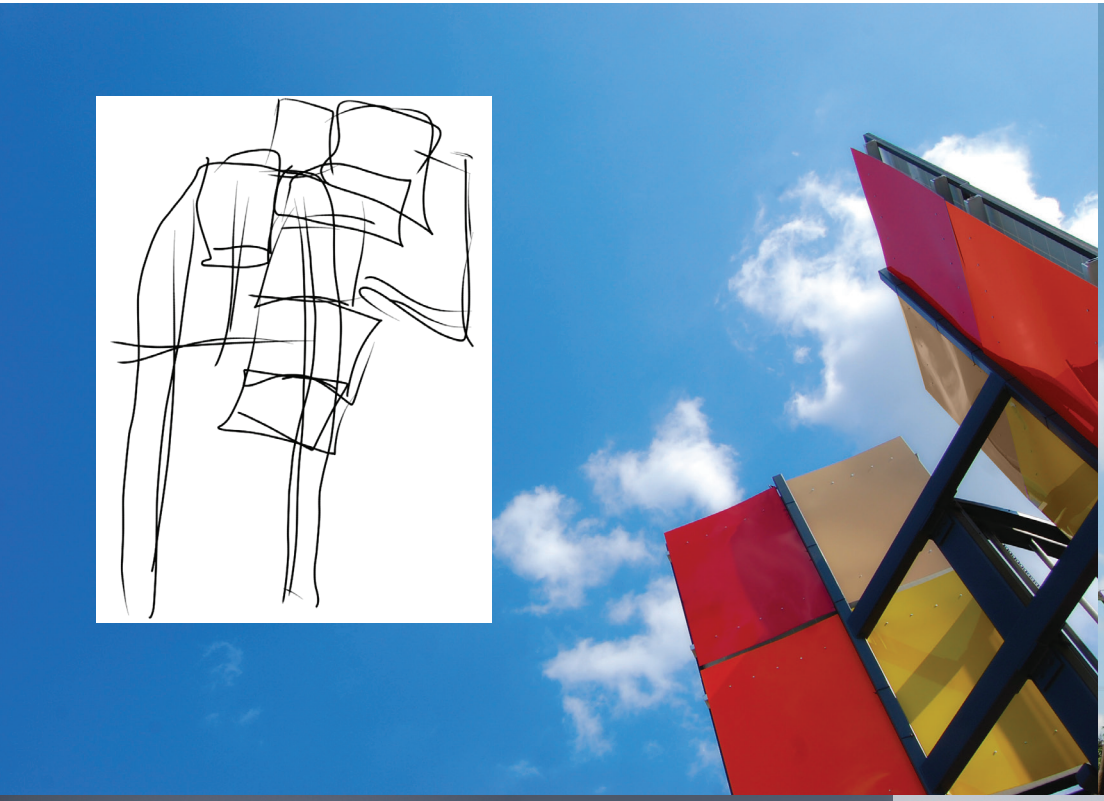
Week 6: Sharing and Celebration

It's time to make it real! With help from the campers on some of the safer tasks, construction concludes by the end of week six. Working within a community means sharing with and celebrating that community. The final week of camp can be an opportunity to invite neighbors, stakeholders, and others to celebrate the outcomes of the camp. In Pittsburgh we had a ribbon cutting and barbecue with the Mayor, local community, funding partners, and others. The week getting ready for this celebration was as robust and exciting as all of the other activities. During the camp, two of the participants composed a rap about solar energy, which they performed live at the ribbon cutting. The engagement with community throughout the camp and into the celebration has ensured that the neighborhood feels a sense of pride and investment in the built outcome.

Renaissance Gate



En Aquellos Tiempos
Fotohistorias del Westside

A SOLAR MURAL ARTWORK

Artwork by Adriana Garcia
Art Direction by Penelope Boyer
Poetry by Carmen Tafolla
Photography on artwork by Antonia Padilla

PARTNERS

Esperanza Peace & Justice Center
Land Art Generator
Mr. Vega's 5th grade class at JT Brackenridge
JT Brackenridge
Community elders from the Westside
South Texas Solar Systems
Mission Solar Energy
Outback Power
Sistine Solar
Unirac

SUPPORTERS

Texas Commission on the Arts
Awesome San Antonio
Alice Kleberg Reynolds Foundation


1948:
Young boy wears a ribbon and holds a lollipop for winning the "Shortest Tail" competition with his goat at the Mexican Christian Institute on 1214 Colima Street.
Esperanza
210.228.0201


LYDIA MENDOZA

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La Monarca

A SOLAR MURAL ARTWORK

Artwork by Cruz Ortiz
Art Direction by Penelope Boyer

PARTNERS

EPIcenter
Land Art Generator Initiative
LISC San Antonio
Land Heritage Institute
OCI Solar Power
Mission Solar Energy
Sun Action Trackers
Sistine Solar

SUPPORTERS

Texas Commission on the Arts
National Endowment for the Arts
Alice Kleberg Reynolds Foundation

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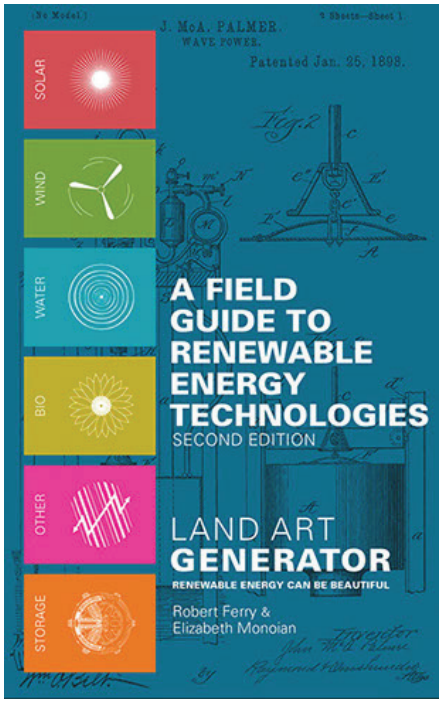
Free Online Resources

https://landartgenerator.org/outreach.html



Field Guide To Renewable Energy Technology

Idea Generator Game

https://youth.landartgenerator.org/

Workshopping

What might an Art + Energy Camp look like for your community?

Where do you see the most opportunity to install a creative community solar project?

In what ways could a project based learning module for a solar power installation adapt to the specifics of your classroom and school context?

What additional learning objectives can be supported by projects like this?

Contact

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