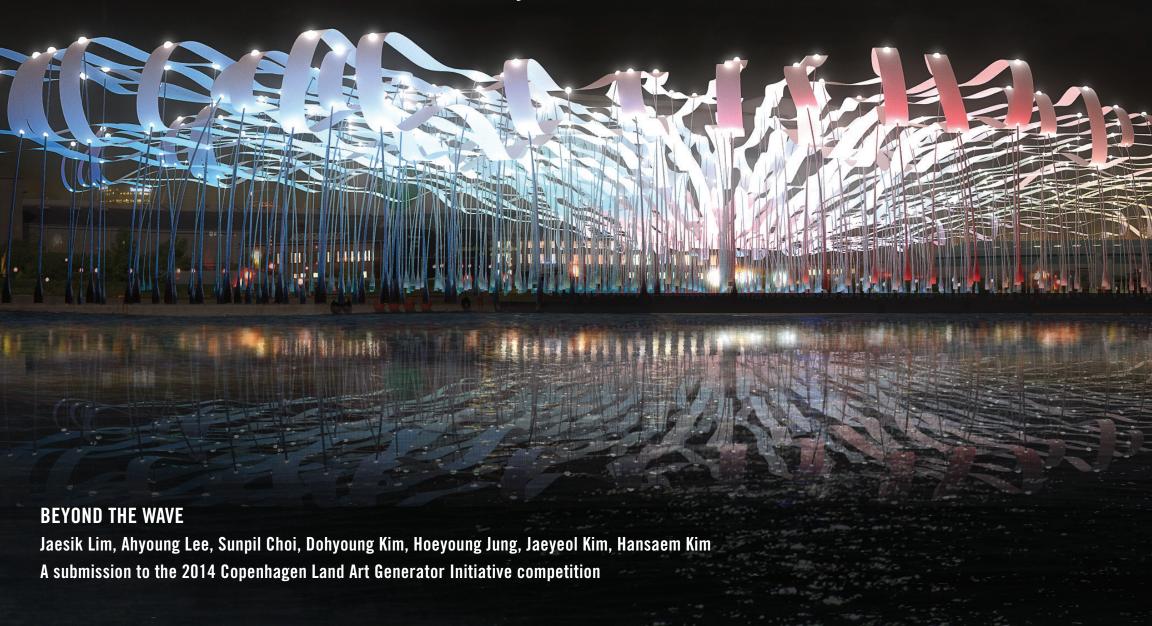
www.landartgenerator.org land art generator initiative

Elizabeth Monoian & Robert Ferry





= land art generator initiative





Hydroelectric Power Plant Taccani (1906) Gaetano Moretti Trezzo sull'Adda (Milan)

Tejo Power Station Various Engineers and Architects Lisbon





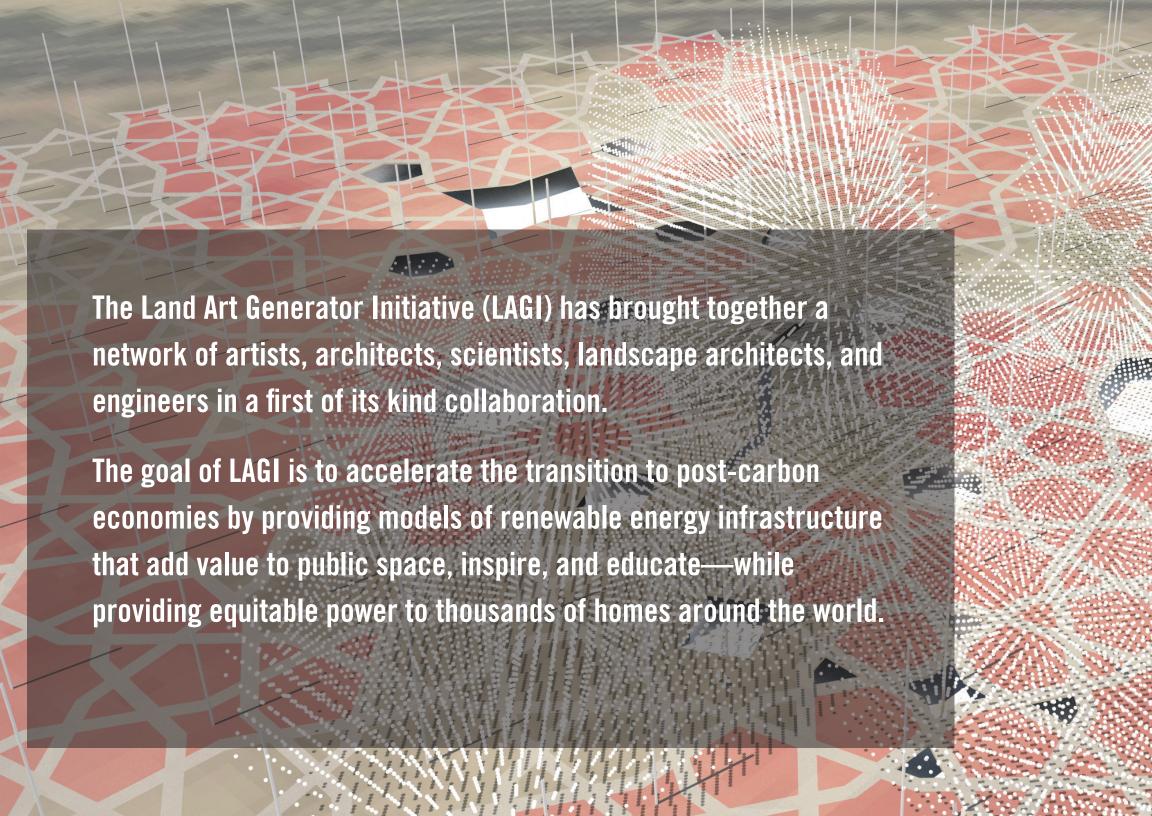
Bruno Barbey THERMAL POWER PLANT WITH RICE FIELDS HADONG, SOUTH KOREA 2007 Thomas Hoepker VIEW OF INDUSTRIAL PLANT IN ESPENHAIN EAST GERMANY 1998





Airman 1st Class Nadine Y. Barclay VIEW OF US AIRFORCE SOLAR INSTALLATION 2007

Henning Leweke TEHACHAPI WIND FARM, CALIFORNIA, USA 2001





The artwork is to capture energy from nature and cleanly convert it into electricity

Consideration should be made for the safety of the viewing public and for the educational activities that may occur on site

The design should be constructible (rather than theoretical)

TECHNOLOGY TYPE polycrystalline solar panels

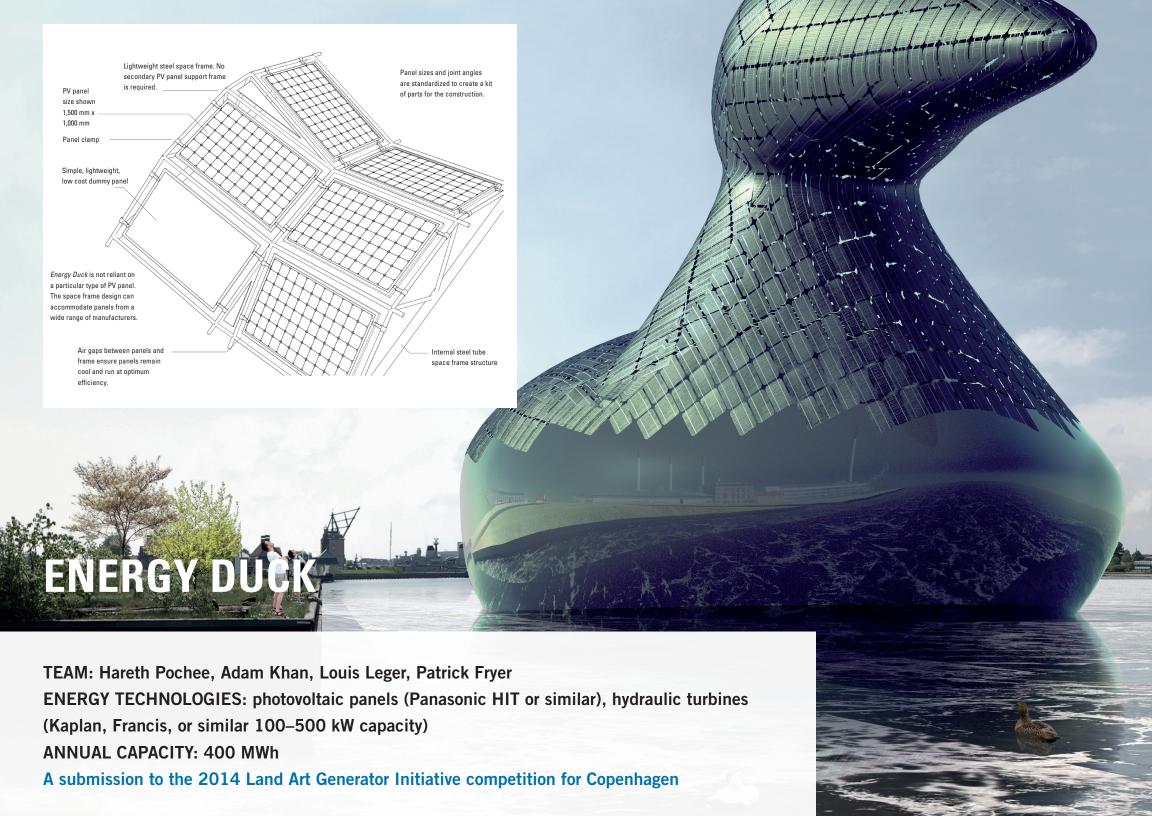
Conversion Efficiency 22%

Capacity Factor 15%-20% (depending on site conditions)





Images from Wikipedia





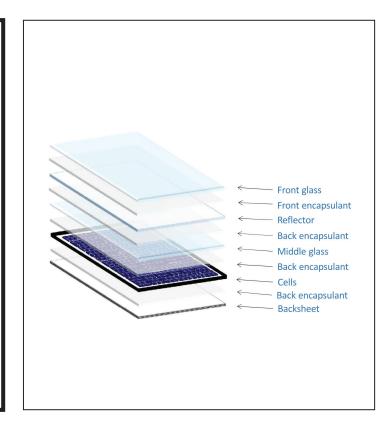
TECHNOLOGY TYPE

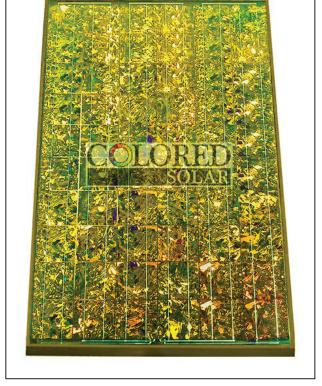
polycrystalline solar panels — color tinted

Conversion Efficiency 15%-18% (depending on type)

Capacity Factor 15%–20%

(depending on site conditions)





Solaxess coating application can create any color of solar panel with minimal impact on efficiency

Image from Colored Solar's Product Literature



TECHNOLOGY TYPE

flexible thin film (0PV)

Conversion Efficiency

8%-12%

Capacity Factor 15%-20% (depending on site conditions)

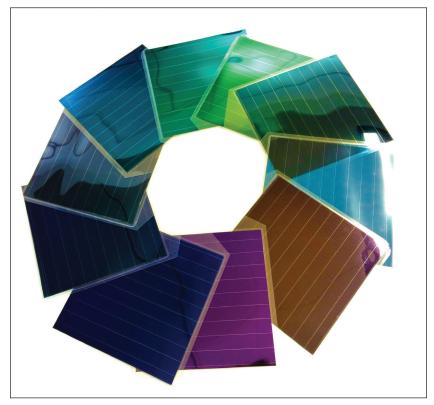


Image courtesy of Heliatek



Image courtesy of Belectric OPV (Solarte™)



TECHNOLOGIES: organic thin film ANNUAL CAPACITY: 4,229 MWh

A submission to the 2014 Copenhagen Land Art Generator Initiative competition

TECHNOLOGY TYPE

concentrated solar power thermal (CSP)

Conversion Efficiency 20%-30%

Capacity Factor 20%-35%

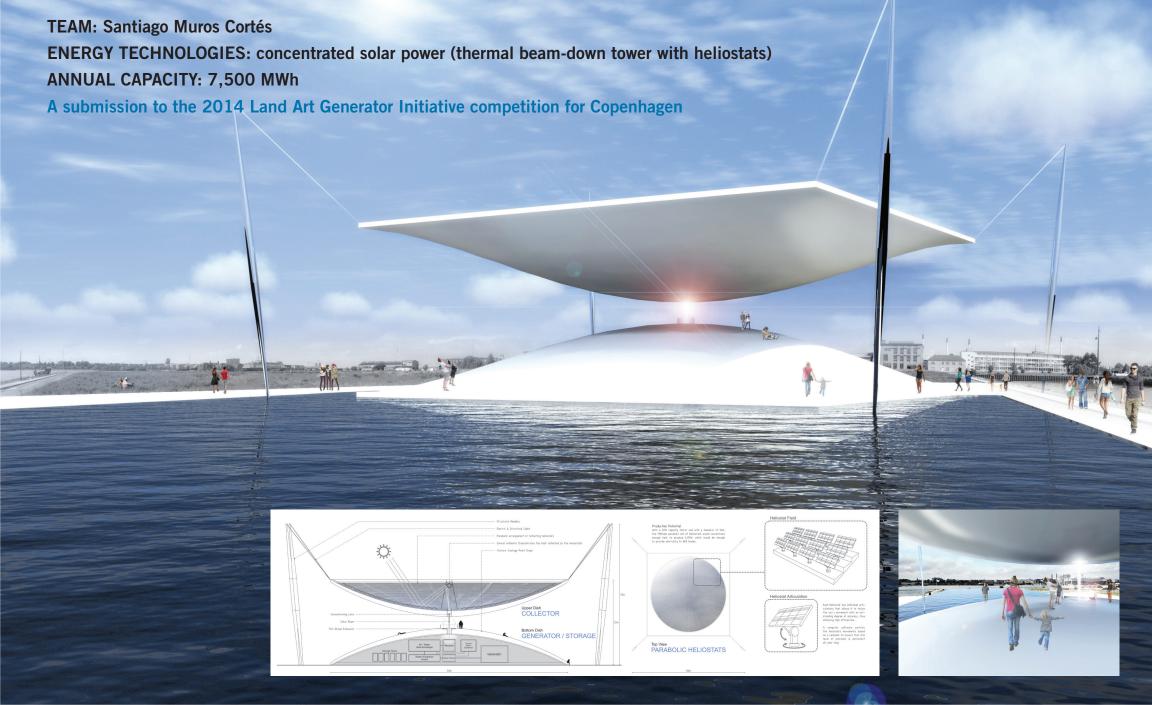
(depending on type and site conditions)



Beam-down point-focus CSP heliostat array at Masdar

Image courtesy of Lens Online from an interview with Marwan Basem Mokhtar





TECHNOLOGY TYPE

ducted wind turbines

Conversion Efficiency 45%

Capacity Factor 20%-30% (depending on local conditions)







FRESH HILLS

TEAM: Designer: Matthew Rosenberg; Structural Engineering Consultant:

Matt Melnyk; Production Assistants: Emmy Maruta, Robbie Eleazer

ENERGY TECHNOLOGY: WindTamer[™], Carbon Dioxide Scrubber, SmartWrap[™]

ANNUAL CAPACITY: 238 MWh

A submission to the 2012 LAGI competition for New York City



WindNest: Pittsburgh Powered by Art

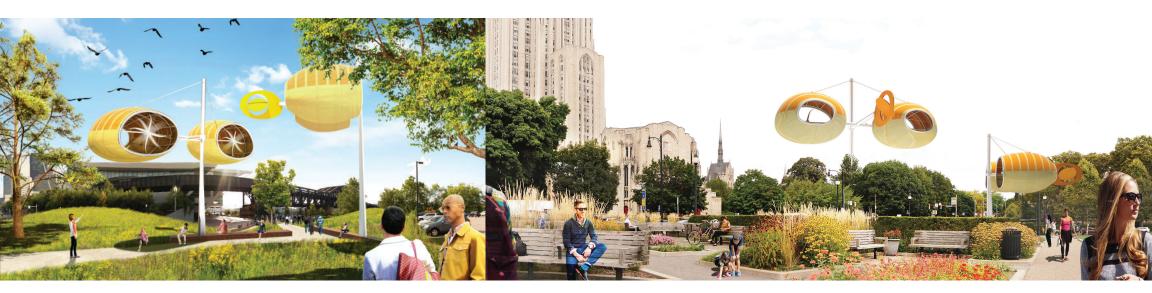
See **http://windnest.org** for more information and complete list of project partners

WINDNEST PROJECT SUPPORT FROM

Heinz Endowments
Hillman Foundation
Horne Family Foundation
National Endowment for the Arts

DESIGN ASSISTANCE FROM

GTK Flow Analysis
Buro Happold Engineering
Air Turbine Propeller Company
C&C Tooling
Mascaro Construction



TEAM: Trevor Lee, Suprafutures

ENERGY TECHNOLOGY: compact acceleration wind turbine, thin film solar

ANNUAL CAPACITY: 30 MWh

A submission to the 2010 Land Art Generator Initiative competition for Dubai & Abu Dhabi





Photo of testing courtesy of GTK Flow Analysis

WindNest

1/4 Scale Wind Testing Prototype

WindNest is designed to passively rotate to face the wind just like a weather vane. To test the functionality and to experiment with the ball bearing mechanism design, a prototyping team under the direction of GTK Flow Analysis fabricated this 1/4 scale model and subjected it to a series of tests under different wind conditions and speed sequences.

The full-scale installation will incorporate a slip ring to allow for continuous rotation while conducting the electricity produced by the turbines and solar fabric.

The prototype also provides the opportunity to experiment with the structure of the cloud pods and will assist with the design of the fabric skin.

FABRICATION AND TESTING TEAM





GTK Flow Analysis specializes in using Computation Fluid Dynamic Analysis, Physical Testing, and Field Testing to determine the flow characteristics of systems. Testing Equipment

C & C Tooling

Prototype Fabrication

SUPRAFUTURES

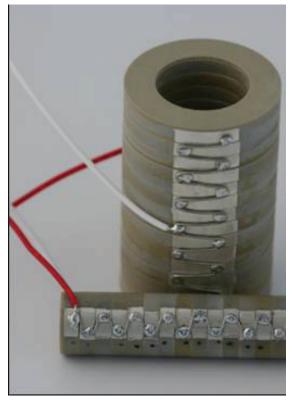
Artist/Designer

land art generator initiative

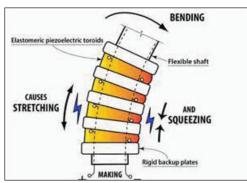
Project Management

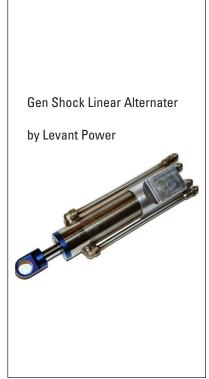
TECHNOLOGY TYPE

piezoelectric disks and stacked actuators











TEAM: Concept and Design Atelier dna: Darío Núñez Ameni & Thomas Siegl; Narrative and Poetics Gabrielle Jesiolowski;

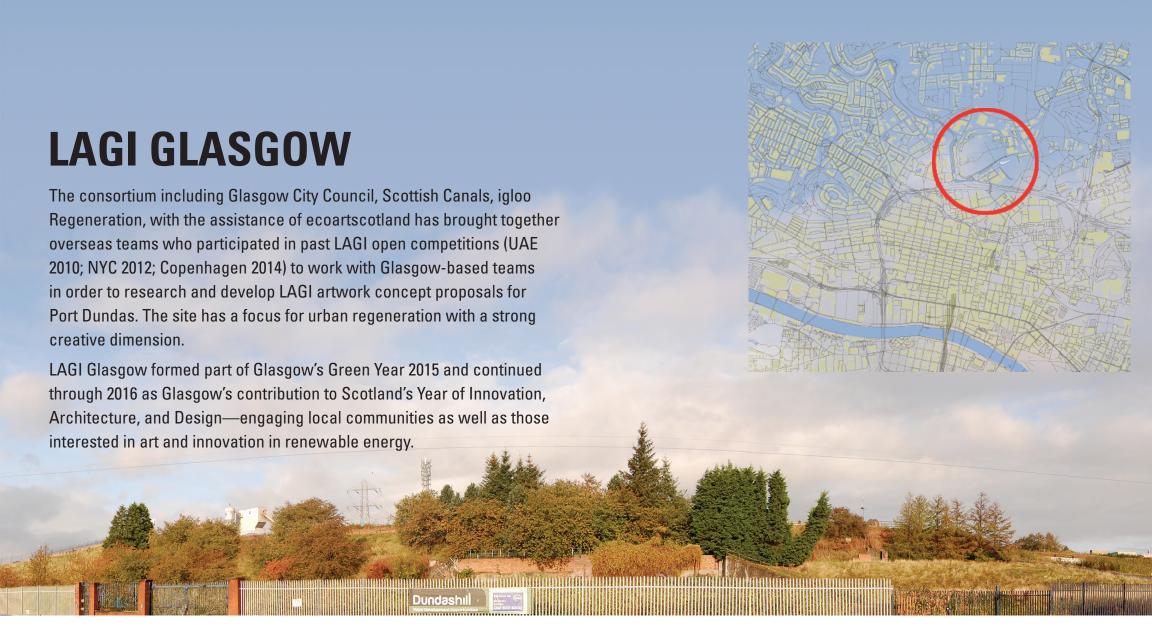
Structure and Engineering; ISSE Innovative Structural and Specialty Engineering: Radhi Majmudar PE;

Ecology and Renewable Energy Strategy eDesign Dynamics: Ian Lipsky

ENERGY TECHNOLOGY: piezoelectric discs, linear alternator

ANNUAL CAPACITY: 20,000 MWh

A submission to the 2010 Land Art Generator Initiative competition for United Arab Emirates



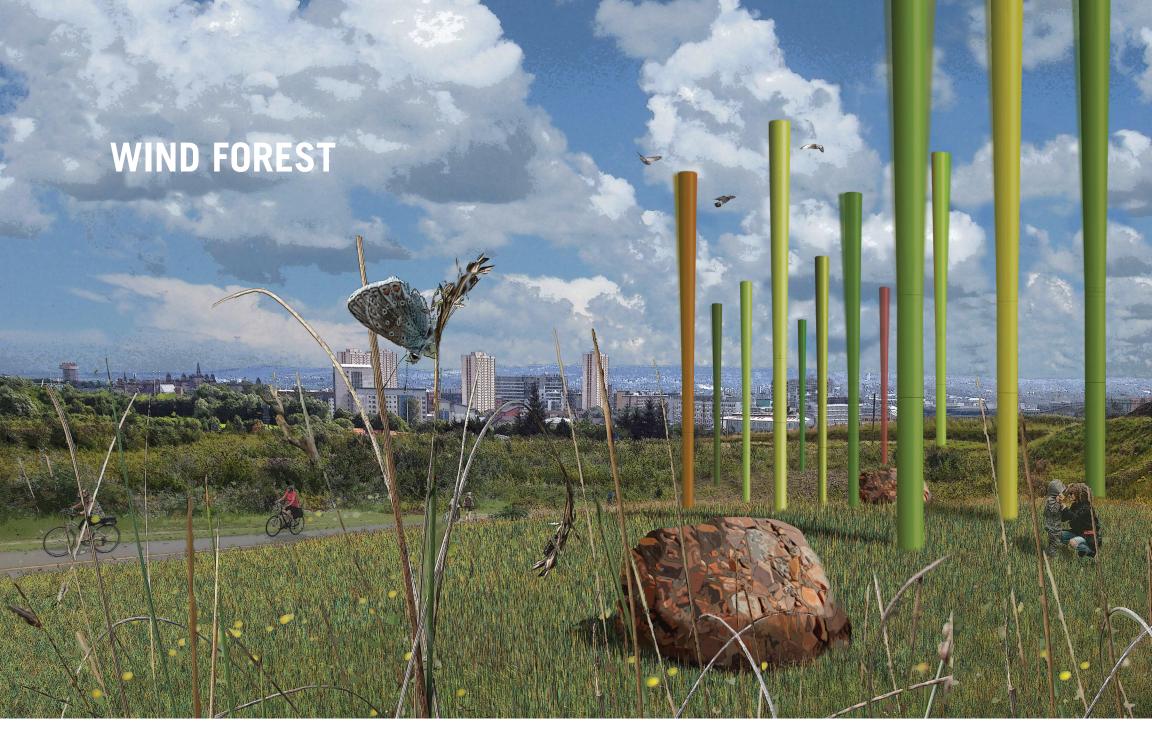












TEAM Dalziel + Scullion, Qmulus Ltd., Yeadon Space Agency, and ZM Architecture

ENERGY TECHNOLOGIES Vortex BladelessTM wind turbines **ANNUAL CAPACITY** 900 MWh

Economic Benefit of Public Art

Olafur Eliasson, NYC Waterfalls (not a Land Art Generator)

\$15.5 million to install. According to the NYC Economic Development Corporation Brought an estimated \$53 million in incremental spending over four months



REQUEST FOR QUALIFICATIONS (RFQ)

LAGIANTIC WILLIAM CONNECTICUT

IN PARTNERSHIP WITH

Willimantic Whitewater Partnership
Institute for Sustainable Energy (ISE) at
Eastern Connecticut State University
Connecticut DECD Office of the Arts
Land Art Generator Initiative

www.landartgenerator.org/ lagi-willimantic.html

invited competition for energy generating public artwork





RELEASE DATE September 26, 2017 **RESPONSES DUE** November 10, 2017

With this Request for Qualifications, Willimantic Whitewater Partnership (WWP) is launching an invited design competition to bring forward the best ideas for an energy generating public artwork within a new development at a prominent site along the Willimantic River in downtown Willimantic. The design process for the artwork should take a creative placemaking and community-oriented design approach. WWP is looking for a team who can merge the on-site renewable energy infrastructure with the landscape, the architecture, and with other environmental sustainability measures.

This request for qualifications is open to any team with one current resident of the State of Connecticut, and is targeted at creative individuals or practices working in the fields of art, design, landscape architecture, urban design, architecture, renewable energy, or related fields.

A public presentation of this RFQ and question and answer session will be held on October 11, 2017 in Willimantic from 5:30–7:30 p.m. at:

J. Eugene Smith Library Eastern Connecticut State University Willimantic, CT 06226

A recording of the session will be made available online.

RFQ DOCUMENT CONTENTS

- 1. Introduction
- 2. Design Site
- 3. Vision
- 4. Process
- 5. Schedule
- 6. Selection Panel
- 7. Budget
- 8. Selection Criteria
- 9. Technical Requirements for Responses to this RFQ
- 10. Partnerships
- 11. Contact Details
- 12. Response Cover Sheet



INTRODUCTION

Willimantic Whitewater Partnership (WWP) is working with the Land Art Generator Initiative (LAGI) on an exciting new public art opportunity.

LAGI Willimantic is being launched in partnership with the Institute for Sustainable Energy (ISE) at Eastern Connecticut State University and the Connecticut Department of Economic and Community Development (DECD) Office of the Arts.

On March 3, 2017, the ISE and the DECD hosted LAGI and WWP for a workshop in Willimantic. Participants at this afternoon "think tank" put their heads together around the design challenges of the WWP site.

During the workshop, community members investigated how renewable energy technologies can be incorporated into public art and creative placemaking opportunities so that the intervention on this exciting site will bring the greatest benefit to the city and its people.

"WWP has always envisioned the Park as an urban green space connecting city residents with the beautiful natural resources of our river and trails and providing a whitewater venue for recreational use and economic development. Our hope is to create a singular place that will serve as an identifying emblem of Willimantic. Founded 325 years ago, powered by the river's renewable hydro-power to become a thriving center of textile production, the City of Willimantic, in the Town of Windham, has gone through good times and bad to become a quirky college-town haven for the arts. Willimantic, with its unique Frog Bridge and restored 19th century mills, embodies the idea of creative placemaking. WWP's main objectives with this project are to enhance the city's identity as a unique 'creative place' and to make a thoughtful and visually attractive statement about the enduring value of renewable energy."

-Willimantic Whitewater Partnership



DESIGN SITE

Willimantic Whitewater Partnership has recently remediated a prominent site in the heart of Willimantic, Connecticut and prepared it for development. Soon it will be home to a new whitewater watersport park with public amenities that WWP envisions will be powered with on-site renewable energy.

The regeneration of the site marks an important turning point for the region and is one of the latest examples of the successful journey through post-industrial reckoning to emergence as a center of higher education, innovation, economic growth, and outdoor recreation destination.

The WWP site offers the perfect opportunity to integrate renewable energy, with a richness of resources available, including hydro, solar, and wind.

Interestingly, there is a history of energy around the property. Hydro power provided much of the energy used to run the Smithville cotton mills that once occupied the site. Two generations of dam expansions provided increases in power output. There still remains the option to bring small scale run-of-the-river hydro power generation back to the site.

In such a prominent location in downtown Willimantic, the site is ideally situated to be a catalyst for expanded economic and community development.



Photo courtesy of Robison Imagery

"The site is a newly remediated Brownfield. It is a 3.4-acre roughly triangular site recently cleared of most trees. The heart of the property is a graded amphitheater-like slope facing the dramatic rapids and rocky gorge of the Willimantic River to the south. The WWP property includes the stretch of river along the site, which has a 20' drop, a breached dam, and a retaining wall. A berm runs along the northern border between the slope and the railroad tracks. A small building (former gas station) remains on the site (with electricity, but no sewer or water). WWP is not wedded to retaining that building but has not decided to demolish it, either."

---Willimantic Whitewater Partnership







A qualified response to this RFQ should be informed by the Willimantic Whitewater Partnership vision for the new park and focus on the intended design approach. Respondents to this RFQ should not put forward any specific concept design solutions or design ideas at this time.

The park is in the early stage of planning and is still in the process of developing its program. The winning team will become a part of that process. WWP can say that a successful public art installation outcome on the site will:

- Be informed by robust engagement with the community
- Have a "wow" factor that brings new people to the place
- Integrate seamlessly into the design of a fully completed park that attracts visitors, hikers, cyclists, kayakers, canoers, community members, and others to Willimantic

"WWP would like to have a Welcome/Information Center, including restrooms, storage, and charging opportunities (for personal devices) incorporated into the design of the project. The Willimantic Whitewater Park will be open to the public, and serve as one of only a few access points to the Willimantic River in the city. Nestled in the heart of downtown, the site serves as a gateway to the city via road, rail, trail, and river. WWP would like to create a space to attract and welcome all visitors to Willimantic."

—Willimantic Whitewater Partnership

- Fulfill the idea of "a park that generates its own energy"
- Be interactive and fun
- Support recreation, its status as a multi-trail hub, and water sport access
- Celebrate the multicultural community
- Enhance and showcase the natural beauty of the river, the habitat, and the wildlife it supports (fish, birds, etc.)
- Contribute to a cherished urban green space
- Be relevant to the location, building on the deep history of the place and the hope for future historical importance
 - Willimantic itself means "land of the swift running water" in Algonquin
 - The city's industrial development was powered by the river beginning in the 1820s
- Contribute to the sustainable operations of the site



PROCESS

This call is being circulated nationally, but one team member must be from Connecticut. Responses are sought from practices with a track record of significant creative work in the built environment, and a demonstrated interest in cross disciplinary collaboration and sustainability.

The call is also available for anyone to download at: http://landartgenerator.org/lagi-willimantic.html

Anyone is encouraged to apply by responding to this RFQ. Please refer to Section 8 "Selection Criteria" for more information.

Of the qualified responses to this RFQ, three teams will be selected by a panel of local stakeholders, and invited to participate in a design competition.

The three invited teams will produce concept designs for how renewable energy technology can be integrated into the site as a work of public art, which engages people and enlivens the site while functionally offsetting the electricity demands of the park.

The detailed design brief for the competition will be issued to the invited teams on December 1, 2017. It will provide greater detail on the objectives, site program, schedule, budget, design constraints, and submission requirements.

The invited LAGI Willimantic design teams will all submit concept designs on or before February 12, 2018.

Following a review of the three concept proposals and an inperson presentation by the three teams, the Selection Panel will select one winning submission in March of 2018.

All three submissions will be exhibited to the public in April of 2018. Other education and outreach activities are planned and the selected team will be asked to contribute in some way to the public outreach program.

Detailed design will commence following the April 2018 exhibition and will proceed in collaboration with the Willimantic Whitewater Partnership's development scheme for the site.



5 PROJECT SCHEDULE

SEPTEMBER 26, 2017

RFQ release and invitation to October 11 event

OCTOBER 11, 2017

Information event in Willimantic (optional for participation)

OCTOBER 14, 2017

Video of information event is available online

NOVEMBER 10, 2017

RFQ responses are due

NOVEMBER 24, 2017

Based on review of RFQ responses, Selection Panel chooses invited teams

DECEMBER 1, 2017

Design Brief is sent to invited teams, which commences open design period

FEBRUARY 12, 2018

Submissions due date

MARCH 2018

Selection of winning entry by Selection Panel following technical review

APRIL 2018

Exhibition and public events

DATES TBD

Detailed design and tender
Fabrication and installation on site



Photograph of the Smithville Mill on the site





6 SELECTION PANEL

The Selection Panel will be responsible for determining the three teams to invite in November of 2017, and also for the selection of the winning design in March of 2018.

The Selection Panel will include local community representatives, arts organizations, and business owners, along with representatives of Willimantic Whitewater Partnership, Institute for Sustainable Energy, and the Connecticut Office of the Arts.

BUDGET

Phase 1

The three invited teams shall each receive a total stipend/ honorarium of \$10,000, which is to be shared between the team members.

Phase 2

The winning team will be commissioned to undertake a Detailed Design stage with an estimated budget of \$65,000 to develop the project to production including:

- detailed drawings for fabrication and installation;
- cost estimates;
- schedules;
- appropriate prototyping, testing, and commissioning plan;
- identification of required subconsultants;
- criteria for appointing fabricators and installers;
- business plan for operations including income and maintenance expenditure.

Phase 3

Fabrication/construction and installation.

Fundraising is required to deliver this stage of the project and therefore the limitations on capital cost of construction are not yet known at this time.





SELECTION CRITERIA

Approach (50%) As provided in the narrative:

- 1. The composition of your team and the relevant skills within the team or available to the team (e.g. art, landscape/architecture, design, community engagement, engineering, illustration, understanding of low and zero carbon energy generation, etc.);
- 2. Key issues, challenges, and opportunities as outlined in your narrative:
- 3. Confirmation of your team's availability and ability to work for the term of the project.

The Selection Panel will review only those submissions that meet the response requirements of the RFQ (refer to Section 9).

A qualified team must contain at least one member who is a current resident of the State of Connecticut.

The selection process will be based on a scoring sheet that gives equal weight to Approach and Experience.

A qualified team does not need to possess the ability to deliver detailed design drawings for construction. In the event that a winning team does not have the licensed architecture and engineering capacity, they will be paired with the lead A/E consultant for the site development at a later stage.

Experience (50%)

Previous concepts and/or built projects which demonstrate:

- 1. Sustainability as a key feature;
- 2. Effective and innovative approaches to placemaking;
- 3. Community engagement and co-design;
- 4. Collaborative and interdisciplinary design process;
- 5. Ability to deliver a concept design that is practical and feasible, and informed by expertise across the disciplines of art, landscape architecture, architecture, and urban design.



TECHNICAL REQUIREMENTS FOR RESPONSES TO THIS RFQ

Responses must be emailed to lagi@landartgenerator.org by the deadline for responses to this RFQ, which is NOVEMBER 10, 2017.

No responses received after that date shall be considered.

Applicants will be notified within one week of closing to confirm receipt. If you do not receive notification by such time please contact <code>lagi@landartgenerator.org</code> to ensure your application has been received.

A QUALIFIED RESPONSE TO THIS RFQ MUST INCLUDE:

- Completed RFQ Response Cover Sheet (Section 12 of this RFQ)
- Narrative of the intended design approach, design philosophy, and the key issues, challenges, and opportunities that you see in the site. Please limit narrative to 1500 words.
- Team organizational bios and individual resumes
- Examples of no more than 8 previous concepts and/or built projects
- Three references (names and contact information)

Responses should be compiled in one letter size pdf document not exceeding 10mb in size. We encourage creativity in your response.

Submission to be sent as an attachment to lagi@landartgenerator.org.



1 PARTNERS

Willimantic Whitewater Partnership

site owner and client

Willimantic Whitewater Partnership is an all-volunteer, non-profit organization formed in 2002 by environmentalists, whitewater kayaking enthusiasts and other community members with the mission to recapture the waterfront of the Willimantic River by developing an urban waterfront and whitewater park. From the start, their vision for the park included creating a green space and recreation hub for the community; increasing safe access to the river for residents; restoring the river's migratory fish populations and other wildlife; becoming a resource for environmental research; serving as a welcome center for hikers and cyclists; celebrating the river's cultural history; and supporting the growth of a downtown transcultural arts and enterprise zone. In 2006 WWP purchased the 3.4 acre former textile mill property on Bridge Street in downtown Willimantic. Since then, the group's efforts have focused on extensive site clean-up (removing underground fuel tanks and other spot remediation), working with the town and state to complete in 2016 the Willimantic River Trail linking three hiking trail networks, and hosting an annual Riverfest/Community Paddle event. Thanks to a \$200,000 EPA Brownfield grant awarded in 2013, remediation of the property was completed in 2017. The site is now poised to become the newest addition to Willimantic's ongoing revitalization.

Institute for Sustainable Energy (ISE) Eastern Connecticut State University

project management and technical assistance

Established in 2001, the Institute for Sustainable Energy promotes energy efficiency and sustainability in Connecticut through education, research and technical support. ISE works to build and strengthen communities from the inside out by supporting the creation and uptake of innovative sustainability practices. In partnership with the Connecticut Conference of Municipalities, ISE will soon launch (November 2017) Sustainable CT, a new statewide, municipal certification program that seeks to help cities and towns across Connecticut become more vibrant, healthy, resilient, economically diverse and thriving places for all of their residents.



PARTNERS (CONTINUED)

Connecticut Department of Economic and Community Development (DECD) Office of the Arts

project sponsor and arts community liaison

The Connecticut Office of the Arts animates a culture of creativity across Connecticut by supporting arts making and arts participation for all people.

In Connecticut, the state agency charged with fostering the health of the creative economy is the Office of the Arts, which is located in the Department of Economic and Community Development (DECD). The Office of the Arts develops and strengthens the arts in Connecticut and makes artistic experiences widely available to residents and visitors. Through grant programs, the Office of the Arts invests in Connecticut artists and arts organizations and encourages the public's participation as creators, learners, supporters, and audience members. Through programs and services, the Office of the Arts connects people to the arts and helps to build vital communities across the state.

Land Art Generator Initiative

competition and design management

The Land Art Generator Initiative (LAGI) provides a platform for artists, architects, landscape architects, and other creatives working with engineers and scientists to bring forward human-centered solutions for sustainable energy infrastructures that enhance the city as works of public art while cleanly powering thousands of homes.

As the world works together to meet climate targets, infrastructures such as wind farms and solar arrays are having an increasingly significant visual impact on cities and landscapes. LAGI presents a new paradigm for sustainable design in public space that responds to the needs of local communities and is a reflection of culture.

Land Art Generator artworks make cities more vibrant and livable while lowering the carbon footprint of development and increasing resiliency.

Land Art Generator design competitions have changed the way that cities and developers manage the integration of public art and creative placemaking into the master planning process for new developments. Competitions for Dubai/Abu Dhabi (2010), New York City (2012), Copenhagen (2014), Glasgow (2015), Santa Monica (2016), and Melbourne (2018) have brought in over 800 designs from 60+ countries.



CONTACT

For questions concerning the RFQ or invited competition logistics:

Elizabeth Monoian and Robert Ferry

Co-Directors
Land Art Generator Initiative

lagi@landartgenerator.org (412) 996-4906

For questions concerning State of Connecticut electricity regulations and the Willimantic Whitewater Partnership design site:

Jessica LeClair

Energy Technical Specialist for Sustainable Communities Institute for Sustainable Energy Eastern Connecticut State University

leclairj@easternct.edu (860) 465-0258



LAGI WILLIMANTIC RFQ RESPONSE COVER SHEET

Point of Contact (must be Connecticut based)	Please check the following items to indicate they are attached:
NAME	Narrative of Design Approach Bio(s) & Current Resume(s)
ADDRESS	Images of Past Work & Annotated Image List
PHONE	Three Professional References
E-MAIL	
WEBSITE	

PLEASE LIST ALL OTHER MEMBERS OF THE TEAM