Presentation

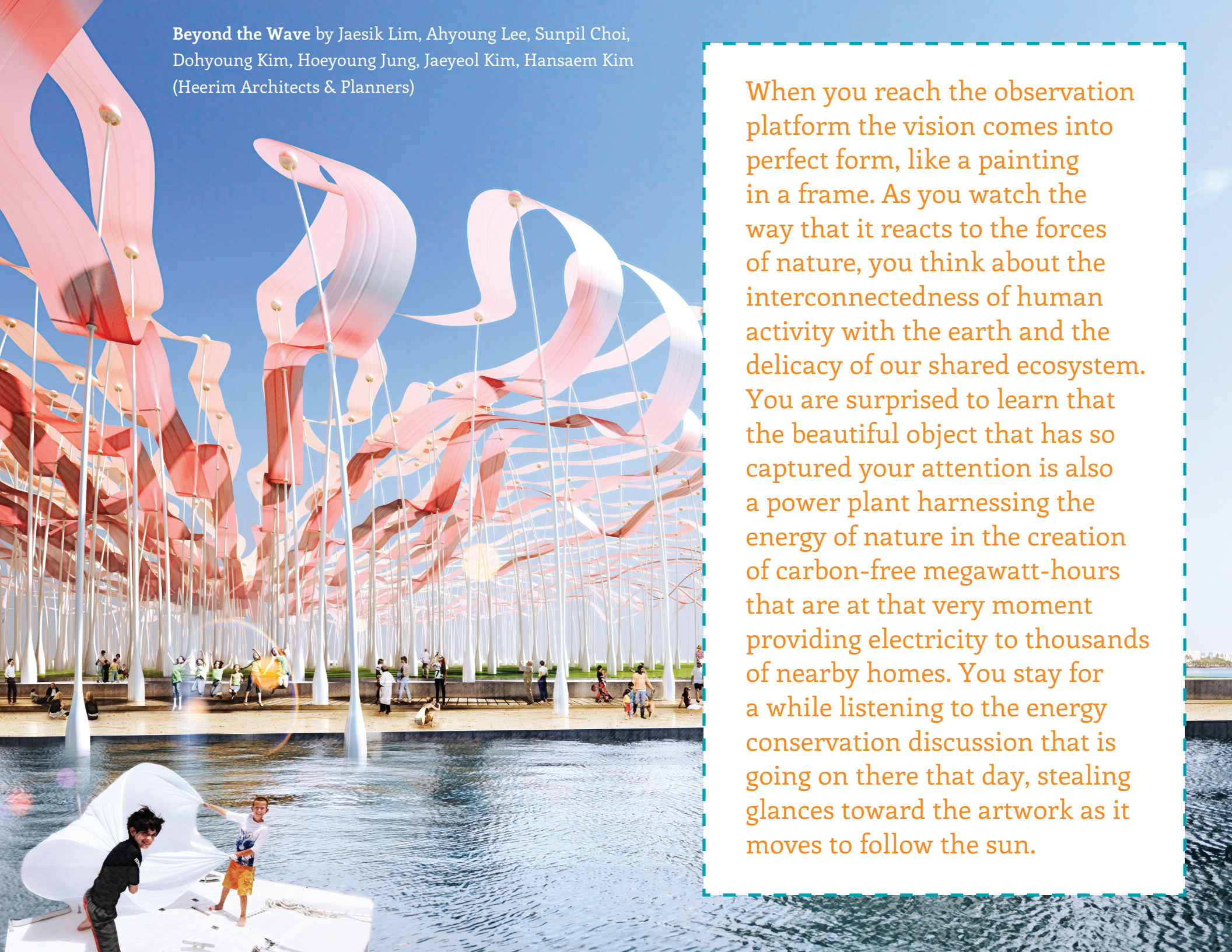
INTRODUCTION TO LAGI

land art generator initiative **powered by art!**

Solar Loop by Paolo Venturella, Alessandro Balducci, Gilberto Bonelli, Rocco Valantines, Mario Emanuele Salini, Pietro Bodria

Tree by Yijie Dang and Tom Tang

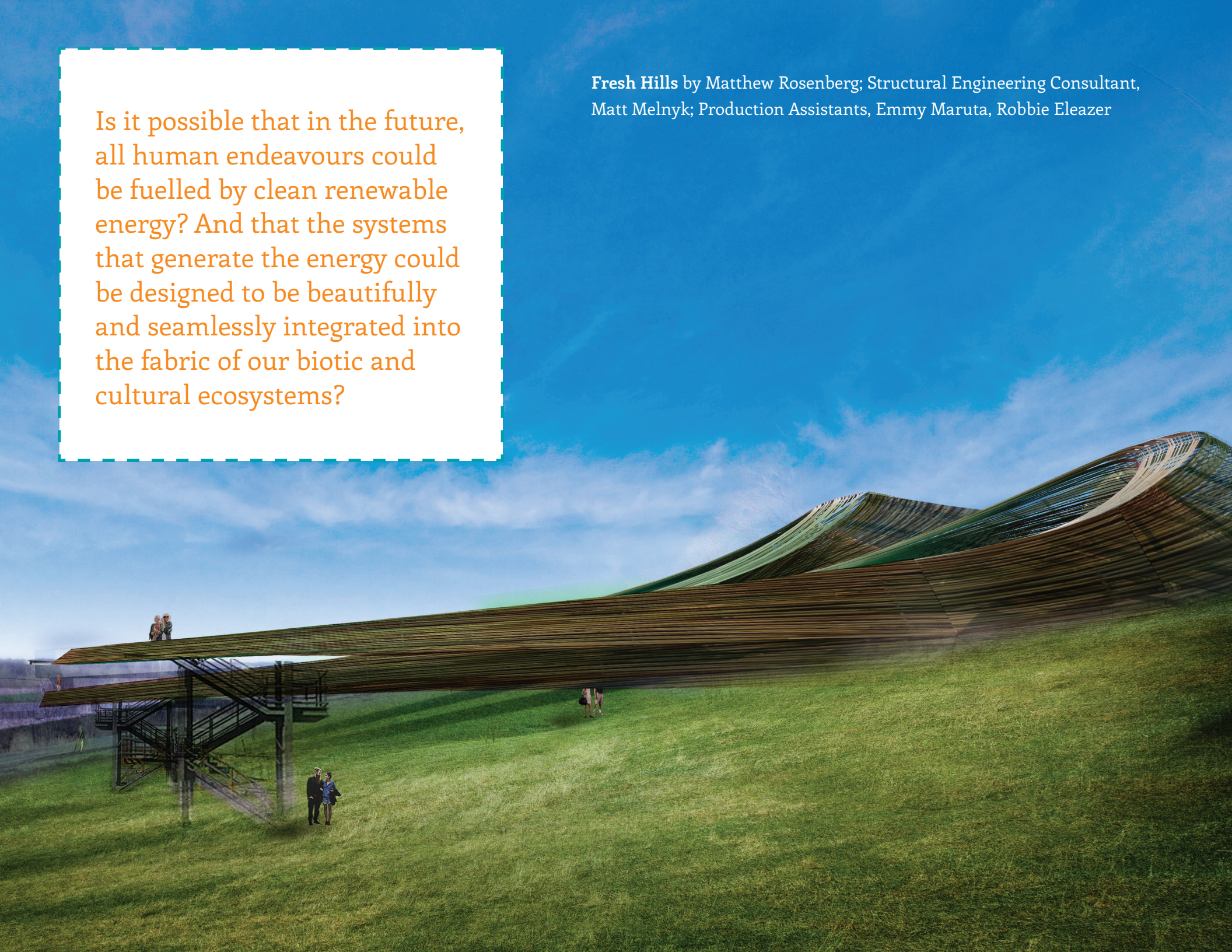
Imagine yourself walking in a large park at the edge of the city. In the distance, an object appears to rise organically from the landscape. Its armatures and folds relate to the composition of the setting. Looking closer, the large object makes you think of the complexity of patterns that exist in the natural world while at the same time it inspires an awe of human invention and ingenuity. The geometries of the sculptural elements seem to respond to the sun and the wind.



Beyond the Wave by Jaesik Lim, Ahyoung Lee, Sunpil Choi, Dohyoung Kim, Hoeyoung Jung, Jaeyeol Kim, Hansaem Kim (Heerim Architects & Planners)

When you reach the observation platform the vision comes into perfect form, like a painting in a frame. As you watch the way that it reacts to the forces of nature, you think about the interconnectedness of human activity with the earth and the delicacy of our shared ecosystem. You are surprised to learn that the beautiful object that has so captured your attention is also a power plant harnessing the energy of nature in the creation of carbon-free megawatt-hours that are at that very moment providing electricity to thousands of nearby homes. You stay for a while listening to the energy conservation discussion that is going on there that day, stealing glances toward the artwork as it moves to follow the sun.

Is it possible that in the future, all human endeavours could be fuelled by clean renewable energy? And that the systems that generate the energy could be designed to be beautifully and seamlessly integrated into the fabric of our biotic and cultural ecosystems?



Fresh Hills by Matthew Rosenberg; Structural Engineering Consultant, Matt Melnyk; Production Assistants, Emmy Maruta, Robbie Eleazer

Golden Roots by Ronny Zschörper and Franziska Adler

The Land Art Generator Initiative was founded with a goal to design and construct public art installations that uniquely combine aesthetics with utility-scale clean energy generation.

The project brings together artists, architects, scientists, landscape architects, engineers, and others in a global collaborative effort to tackle the challenges of our energy landscapes.

The consensus of scientists is that the world needs to drastically reduce the fossil fuel emissions and greenhouse gases (GHG), such as carbon dioxide, over the next few decades if we are to prevent serious consequences of global climate change.

We feel strongly that there is a role for individuals to contribute positively towards a long term solution through art and design.

We invite you, your friends, and your communities to join us in imagining the beauty of our clean energy future.

The following pages will introduce technologies and concepts in selected entries by professional teams to past LAGI design competitions.

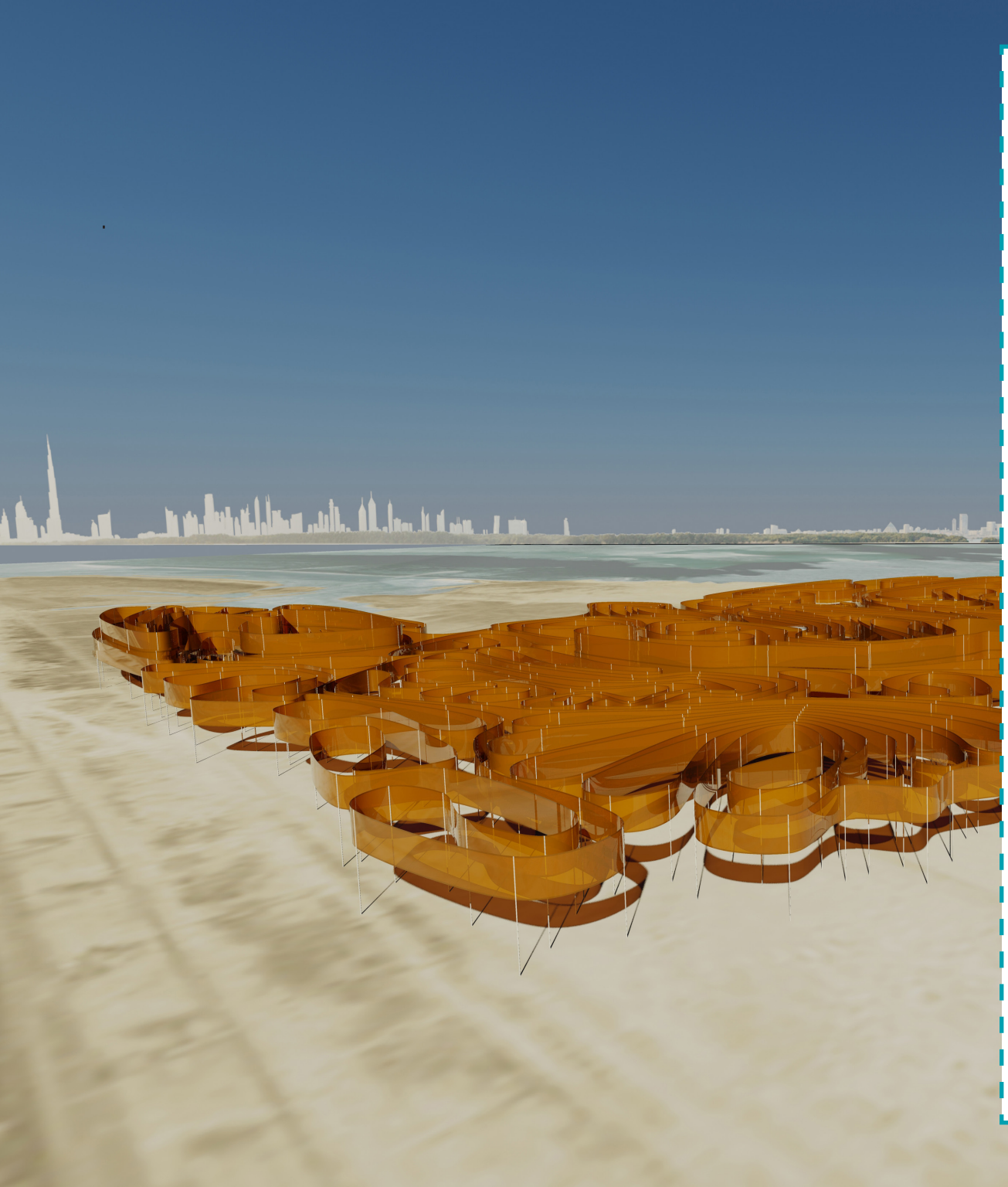
ENERGY DUCK

ARTIST TEAM
Hareth Pochee, Adam Khan, Louis Leger, Patrick Fryer

TECHNOLOGIES
photovoltaic panels (Panasonic HIT or similar), hydraulic turbines

ANNUAL CAPACITY
400 MWh

DESCRIPTION:
So much more than just a duck! **Energy Duck** is an entertaining, iconic sculpture, a renewable energy generator, a habitable tourist destination, and a celebration of local wildlife. The common eider duck resides in great numbers in Copenhagen; however, its breeding habitat is at risk from the effects of climate change. **Energy Duck** takes the form of the eider to act both as a solar collector and a buoyant energy storage device.



LIGHT SANCTUARY

ARTIST TEAM
Martina Decker and Peter Yeadon

TECHNOLOGIES
organic thin film

ANNUAL CAPACITY
4,500 MWh

DESCRIPTION:
Light Sanctuary brings meaning to the idea of the mirage as a scintillating fluid structure. It is a sea of ribbons floating above the land and reaching out toward the water's edge. Forty kilometers of photovoltaic material is raised like a continuous flag a minimum of six meters above grade. The ribbons, each 10 m in height, are poised on a network of strong but slender masts, recalling the structure of nomadic fabric architecture. The surfaces are made of third generation photovoltaics, laminated in one continuous piece.

WINDNEST

ARTIST TEAM
Clare Olsen and Trevor Lee

TECHNOLOGIES
compact wind acceleration turbine, thin film solar

ANNUAL CAPACITY
30 MWh

DESCRIPTION:
WindNest demonstrates the potential for our sustainable infrastructures to be joyful contributions to creative placemaking. Walking through WindNest, visitors experience a set of moving cloud formations overhead. As they linger on their way through this beautiful place, they will discover that the pods above them are at that very moment generating clean electricity with a mix of wind and solar technologies.

SOLAR LOOP

ARTIST TEAM
Paolo Venturella, Gilberto Bonelli, Alessandro Balducci, Rocco Vanantines, Mario Emanuele Salini, Pietro Bodria

TECHNOLOGIES
thin film photovoltaic

ANNUAL CAPACITY
10,000 MWh

DESCRIPTION:
The aim of **Solar Loop** is to expose as much surface area as possible to the solar rays. The shape emerges directly from the solar diagram, following the sun with the most efficient angle almost like a frozen artificial sunflower. **Solar Loop** could be a shelter or an arena to organise events inside such as concerts, sporting events, or speeches.

SOLAR ECO SYSTEM

ARTIST TEAM
Antonio Maccà and Flavio Masi

TECHNOLOGIES
photovoltaic panels

ANNUAL CAPACITY
1,000 MWh

DESCRIPTION:
Solar ECO System celebrates the position of the planets on December 2, 1971—the day the United Arab Emirates was founded. The sun and each surrounding planet are created from photovoltaic materials of different shapes, colours, and textures.
The astronomic sun radiating energy to the new photovoltaic sun will generate enough clean electricity to power a neighbourhood. Each of the orbs incorporates a different PV strategy to complement the artist's conceptual imagining of the solar system.

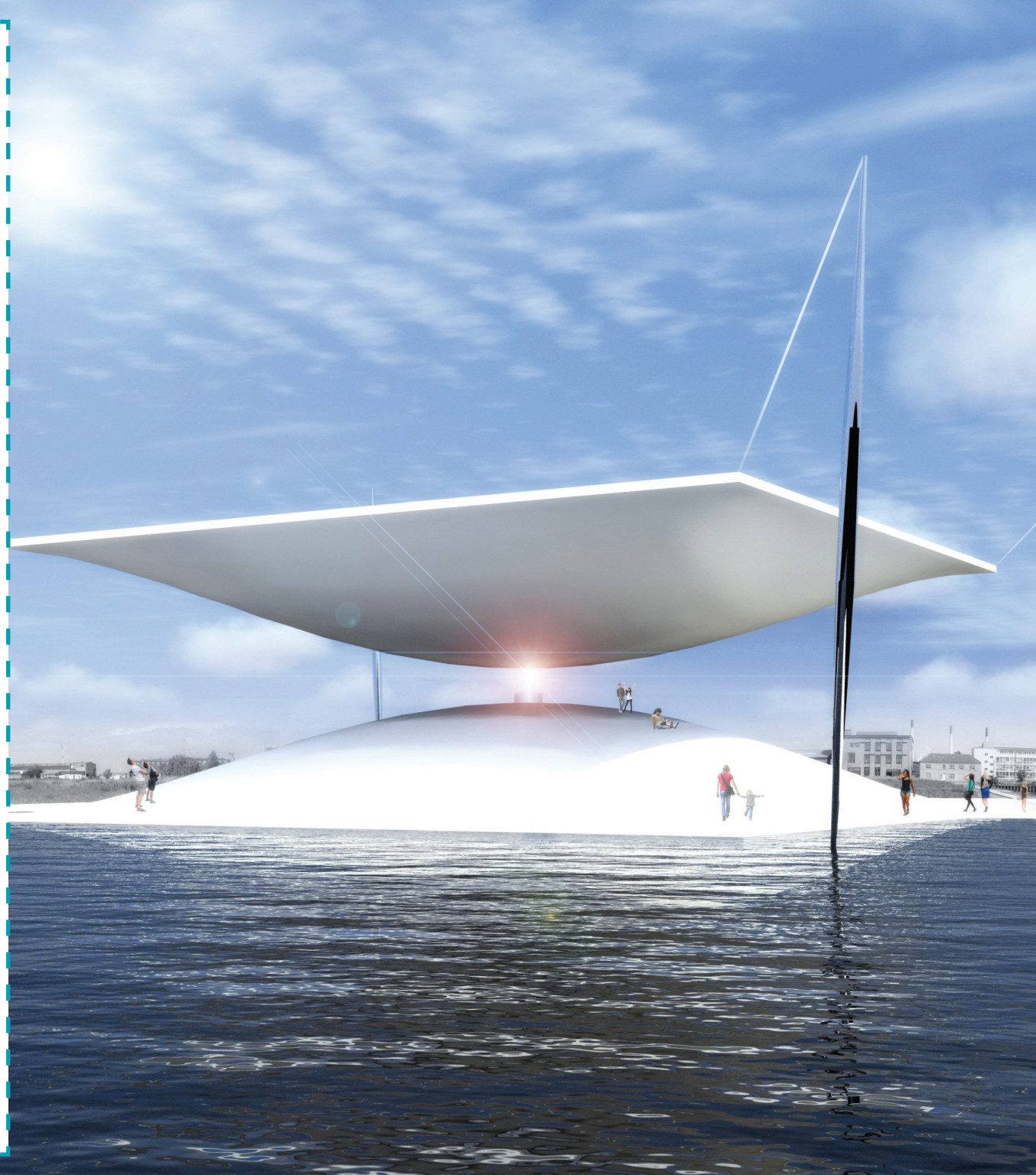
SOLAR HOURGLASS

ARTIST TEAM
Santiago Muros Cortés

TECHNOLOGIES
concentrated solar power (thermal beam-down tower with heliostats)

ANNUAL CAPACITY
7,500 MWh

DESCRIPTION:
Rather than using sand to measure time, the **Solar Hourglass** uses the power of the sun to electrify hundreds of homes while providing a breathtaking setting for inspiration and relaxation. The project works as a solar central receiver, consisting of an arrangement of small flat mirrors that concentrate their reflection of solar energy on a tank holding a heating medium. Sun-tracking mirrors (heliostats) on top of the upper bulb reflect solar heat onto a cone-shaped set of smaller mirrors that concentrate these reflections and direct them down the neck of the installation.



SUPER CLOUD

ARTIST TEAM
Lucas Jarry, Rita Serra e Silva, Lucas Guyon, Marianne Ullmann

TECHNOLOGIES
piezoelectric discs

ANNUAL CAPACITY
2,487 MWh

DESCRIPTION:
Super Cloud mimics the movement of wind patterns. As each tube floats between ground and sky, vibrating in the wind, it acts as a dynamic element within the landscape. Art, energy, and the land act together in a cohesive system, delivering clean, renewable energy. Shadows, vibrations, and reflections create a unique aesthetic experience through time, weather, and season.

FRESH HILLS

ARTIST TEAM
Matthew Rosenberg, Matt Melnyk, Emmy Maruta, Robbie Eleazer

TECHNOLOGIES
compact acceleration wind turbines

ANNUAL CAPACITY
238 MWh

DESCRIPTION:
Approaching **Fresh Hills**, the undulating mounds appear to be natural elements growing from the earth. The closer we get, however, it is clear that this structure, like the mounds below it, are not native to the recently capped Fresh Kills Landfill site. It creates a seamless integration between utility-scale energy harnessing and a program-filled landscape, while creating a harmonious relationship between earth and wind. **Fresh Hills** is a remedy for the typical turbine farm that so often isolates the landscape and discourages communities from engaging the space.