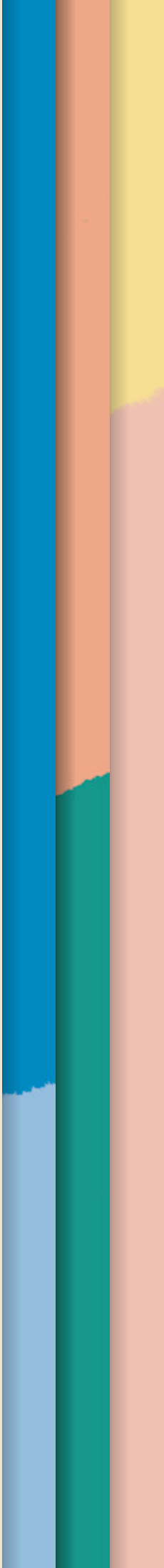


STAVROS
NIARCHOS
FOUNDATION
CULTURAL
CENTER

ΚΕΝΤΡΟ
ΠΟΛΙΤΙΣΜΟΥ
ΙΔΡΥΜΑ
ΣΤΑΥΡΟΣ
ΝΙΑΡΧΟΣ

SUSTAINABILITY HUB





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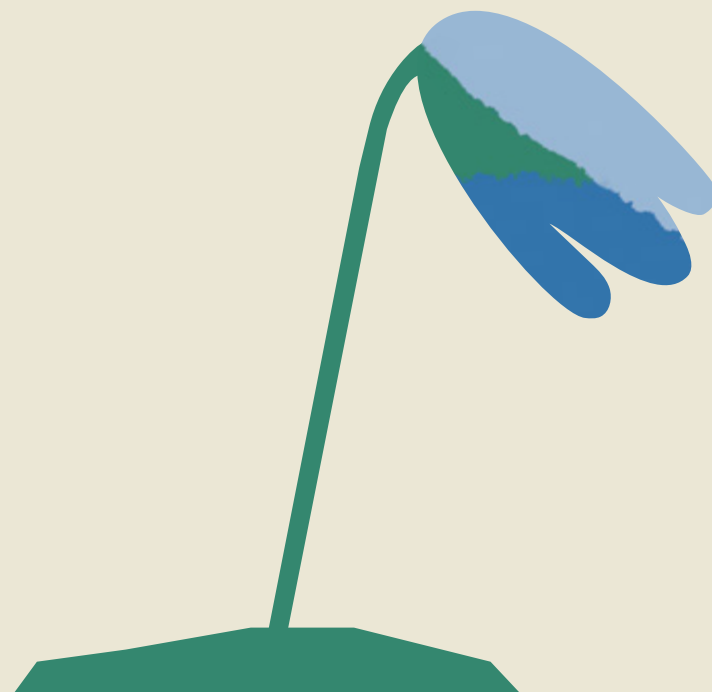
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Extreme weather phenomena, increased atmospheric pollutants, uncontrolled urbanization, within an ecosystem in distress:

the climate crisis is increasingly leaving its indelible mark on our home, our country, our planet. There is no doubt that all this reaffirms the compelling argument that, in this critical time, reorienting ourselves from unbridled consumption to the mindset of the green economy is also a matter of civilization and culture.

So, what is the role of a cultural organization in the face of the urgent need for sustainability?



Designed to have the lowest possible environmental impact, the Stavros Niarchos Foundation Cultural Center (SNFCC) is a hub of sustainability and innovation. Since the inception of its creation by the Stavros Niarchos Foundation (SNF) and architect Renzo Piano, sustainability has been a fundamental prerequisite and key element of the project.

“

Sustainability is probably the most important source of inspiration for us today. I think that it is a duty, but also a great opportunity. It's going to be the language of our time. The fragility of our earth provides us with an excellent excuse to change, to be better, because it's a pure force of necessity.

*Renzo Piano,
SNFCC Architect*

”

The architectural design and technologically advanced construction of the SNFCC, a prominent example of which is its Energy Canopy, make it one of the most environmentally sustainable buildings in the world. Since the first years of its operation, the SNFCC has been evolving into a metropolitan park governed by the principles of sustainability, both at the operational level and across the entire range of activities it implements to raise awareness and inform the public.

“

When we started collaborating with Renzo Piano on the construction of the Stavros Niarchos Foundation Cultural Center (SNFCC), we decided together that the project had to meet the highest standards of sustainability. We not only focused on bioclimatic design and energy efficiency, but also took an expansive view of sustainability that included respect for the natural environment and those around us, as well as encouraging behaviors that help keep the SNFCC functioning as it's meant to. We believe that the SNFCC is a successful, globally applicable example of sustainably designed public space, and we hope that it will continue to offer future generations the opportunity to enjoy an open public space of the highest quality, where every single visitor is able to participate freely and equally.

*Andreas Dracopoulos,
Co-President, Stavros Niarchos Foundation (SNF)*

”

“

Sustainability lies at the heart of the Stavros Niarchos Foundation Cultural Center's operation and activities. By continuously learning and evolving, and by applying best practices, we aim to serve as a model of sustainability, not only for our green facilities and infrastructure, but also for the way we operate. Finding ways to reduce our environmental footprint and designing programs and events to raise awareness among our visitors, young and old, are ongoing mandates, and we consider it our duty to do our part in addressing the climate crisis and create a better future.

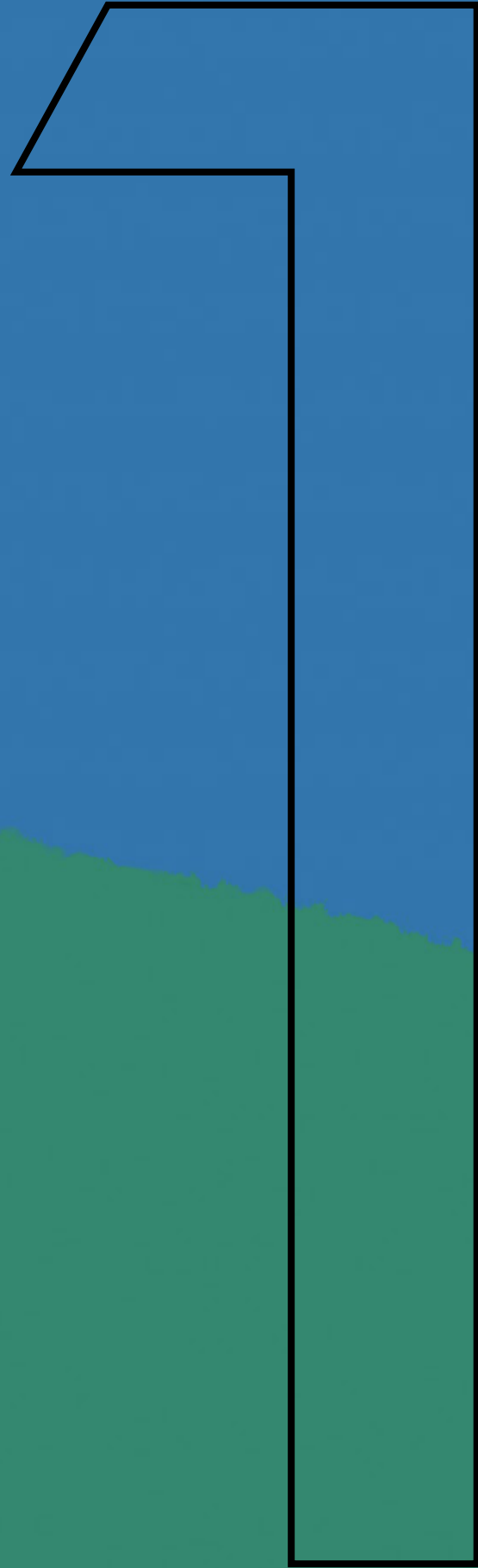
*Elly Andriopoulou,
Managing Director, SNFCC*

”

The SNFCC's stance on the challenges of sustainability as a key modern-day question is presented in this handbook across the following three chapters:

- 01 Environmentally friendly design & construction
- 02 Environmentally friendly operation & enhancement of biodiversity and local ecosystem
- 03 International destination for awareness raising & education





SNFCC: Design & Construction

The building is a living organism, designed to be sustainable

“

Let's look at sustainability as a life proposal that reminds us of what we need to moderate, balance and manage. The message of sustainability is the ecological shift of our mindset for the good of Nature and our fellow human beings.

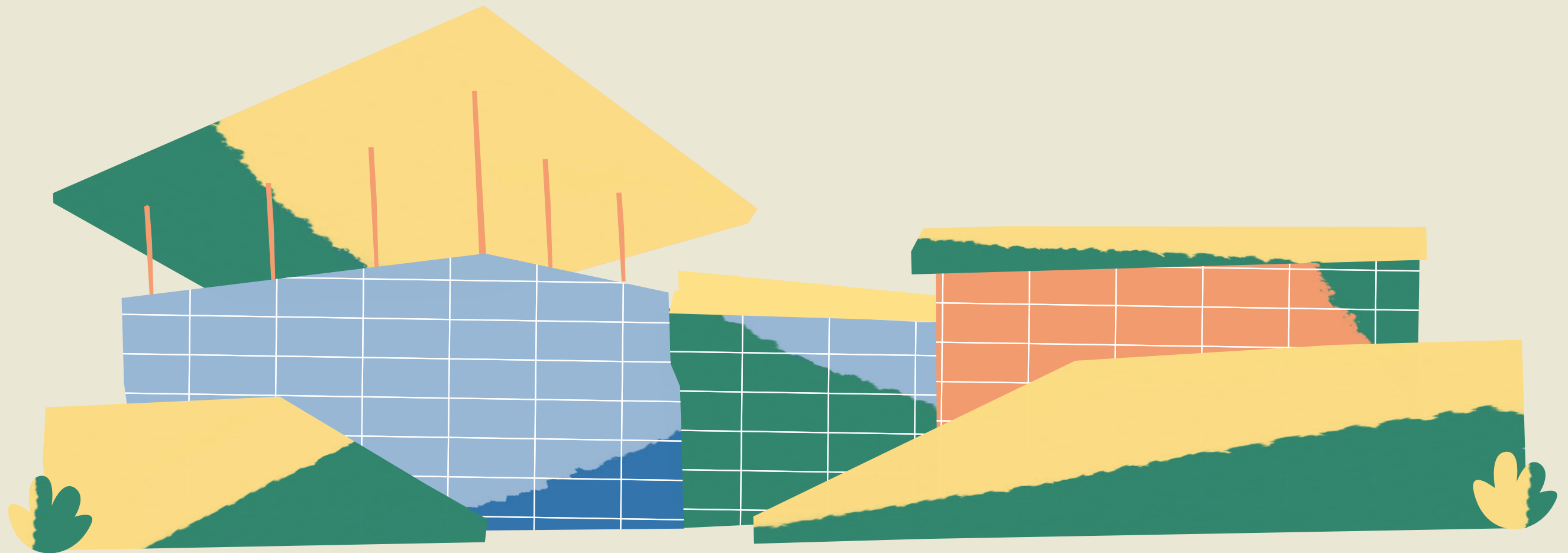
*Dimitris Protopsaltou,
General Director & Head of the
SNFCC's Environmental Management Unit*

”



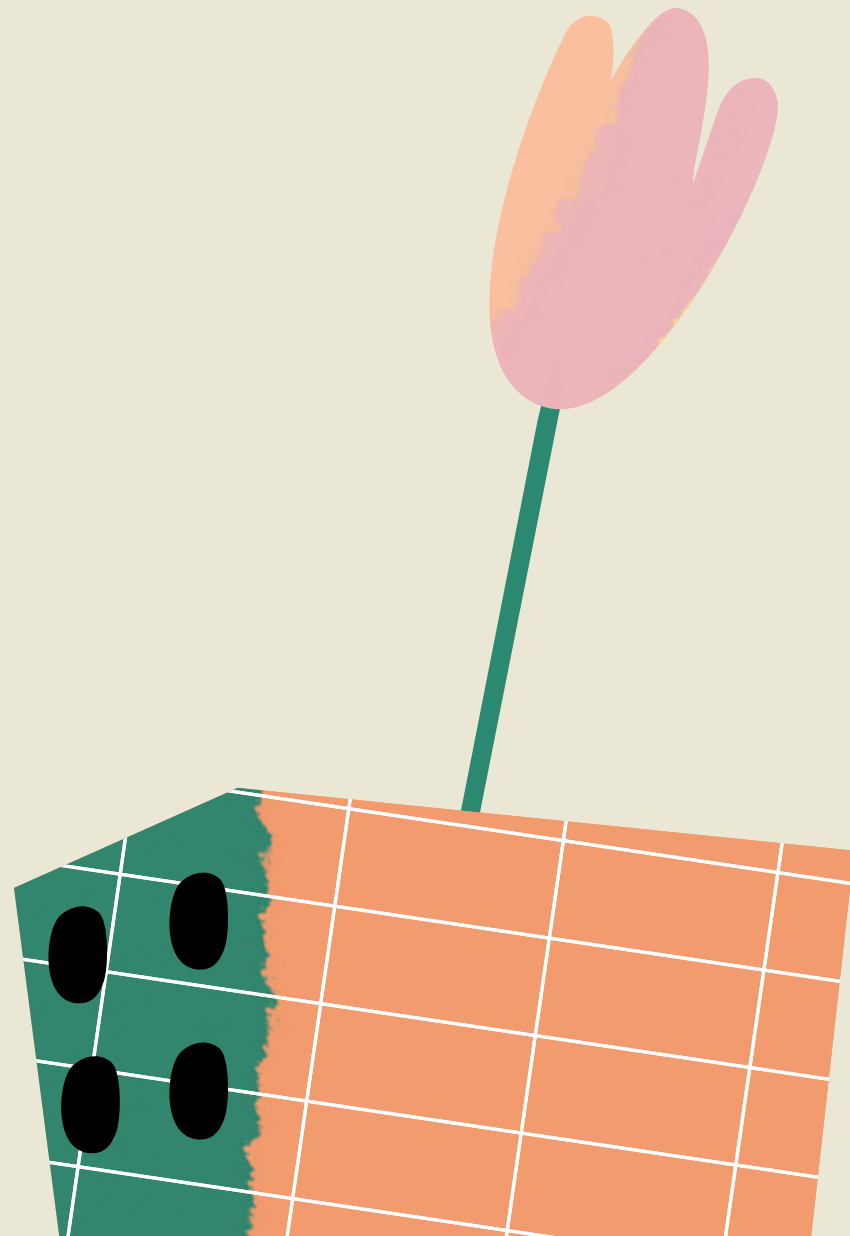
The creation of an environmentally friendly and sustainable infrastructure has been from the start at the root of the SNFCC's vision and design by the Stavros Niarchos Foundation (SNF). From the sweeping Energy Canopy on the roof of the Greek National Opera (GNO) to the numerous design details of the buildings and the Stavros Niarchos Park, the imperative of sustainability is reflected everywhere and emerges as a new paradigm in the construction, operation and maintenance of public spaces and infrastructure.

This concerted effort has already won international recognition, with the SNFCC becoming the first large-scale cultural project to be awarded the LEED Platinum Certification as a Green Building. Its certification came as a result of its pioneering architectural design, and the incorporation of active and passive technologies that render it one of the environmentally friendliest buildings in the world.



Ambitious environmental goals were set from the beginning

- 01 Adoption of the most rigorous international environmental standards.
- 02 Attainment of the highest-level environmental certification, LEED Platinum.
- 03 Compliance with the Environmental Impact Assessment and relevant Greek environmental regulations.

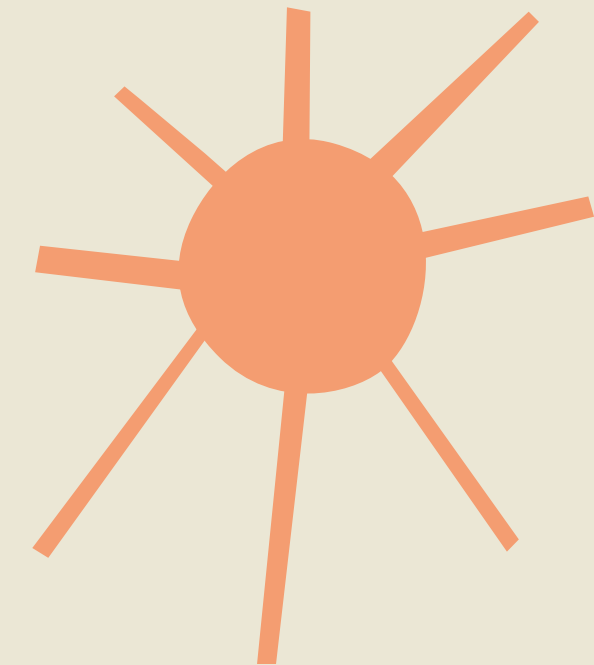


An integrated energy study has been conducted and implemented in all buildings

- 01 An integrated design of the building shell, making the most of each building's location and orientation with respect to the surrounding space and available sunlight.
- 02 Energy efficiency of the buildings with appropriate application of thermal insulation in opaque structural elements, as well as selection of suitable frames and high-efficiency electromechanical systems of minimal primary energy consumption.

Solar Shading

- 01 The large-surface glass facades of the buildings of the Greek National Opera & the National Library of Greece are shielded from overexposure to the sun by external roller blinds. These are activated both through light sensors and ad hoc by the operators of the building complex, in order to reduce exposure to solar radiation and contribute to the reduction of energy consumption.





Natural Lighting

- 01 Special priority is given to the use of natural lighting in the building complex, with large glass openings on the southeast side of the buildings. The Agora (entrance area of the Greek National Opera and the National Library of Greece) is surrounded by tall glazing at the part featuring the greatest transparency with regard to its interior. Skylights are also utilized to let natural light into vital spaces of the two buildings.
- 02 Renewable energy technologies and automatic control devices are used for the operation of electromechanical installations to limit their unnecessary use.
- 03 The buildings of the Greek National Opera and the National National Library of Greece were awarded a certificate of energy performance in accordance with the relevant regulation (KENAK, OGG B407/6.4.2010), achieving the highest energy class A+.

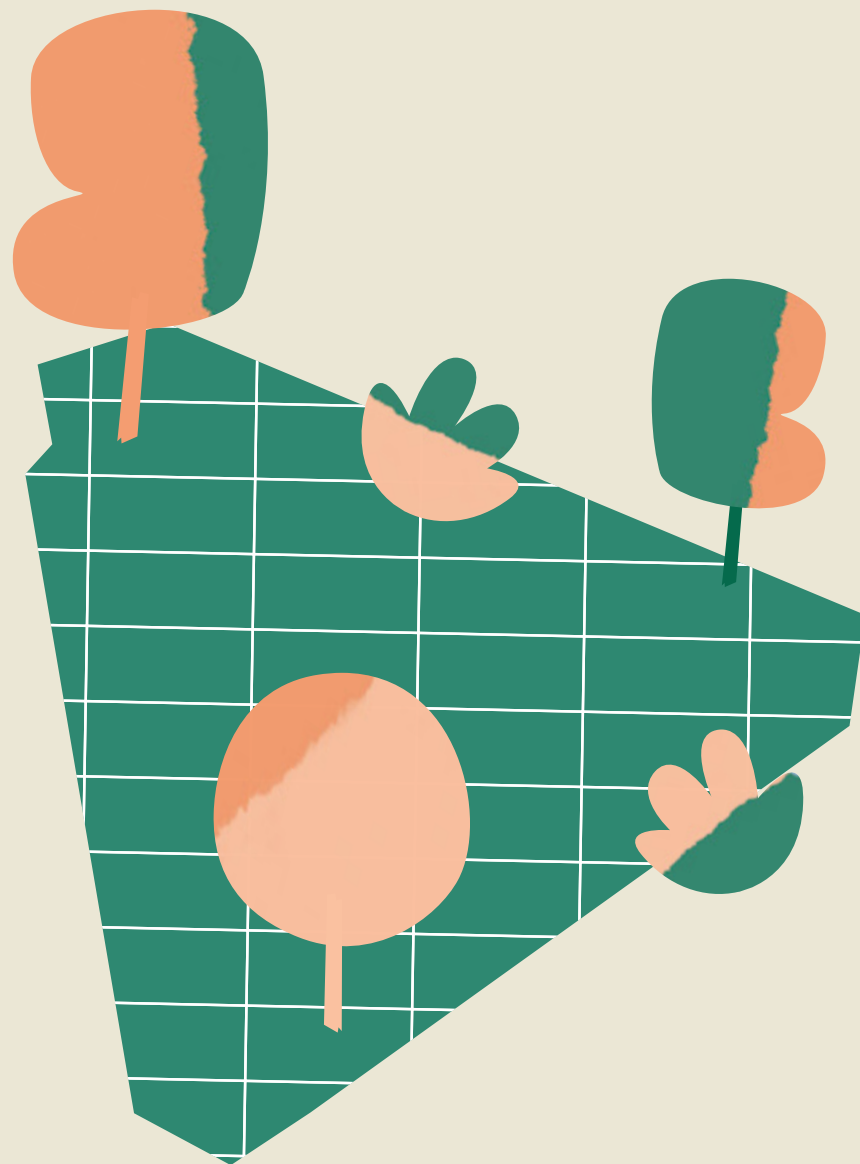
Smart Building Energy Management System (BEMS)

- 01 Early-warning systems for operational failures.
- 02 Remote management.
- 03 Automated operations.
- 04 Monitoring of energy, water, and natural gas consumption, as well as of the energy produced by the photovoltaic system.

In addition to the BEMS, there are also in operation:

- 01 Central lift monitoring system.
- 02 Central energy monitoring system.
- 03 Water quality monitoring system for the Canal.
- 04 Lighting control system.

Stavros Niarchos Park



The Stavros Niarchos Park is an archetypal Mediterranean landscape, sprawling across a hill that features the typical flora and character of an urban landscape.

Using the hills of Attica as our design inspiration and conceptual guide, the Stavros Niarchos Park was harmoniously integrated into the landscape of the Attic basin, capturing the essence of a Mediterranean locus, giving visitors the opportunity to get to know the plants of Greece and, more broadly, the Mediterranean.





1.439

Trees



128.000

Shrubs



164.000

Grasses

5.070 m²

Lawn



210

Hectares

As a modern work of landscape architecture, the park was designed according to the principles of sustainability and viability, with respect to the place and its points of reference, and, above all, in line with the needs and wishes of the inhabitants of a modern city.

The Stavros Niarchos Park is a diverse landscape, accessible and open to all, a living organism in constant evolution.

1,439 trees, 128,000 shrubs, 164,000 grasses and bulbs have been planted in the park. The Great Lawn covers an area of 5,070 m². Overall, the Stavros Niarchos Park covers almost the entirety of the SNFCC grounds, spanning an area of 21 hectares.

The flora of the Stavros Niarchos Park features exclusively varieties of the Mediterranean landscape and constitutes the bastion of its sustainability.

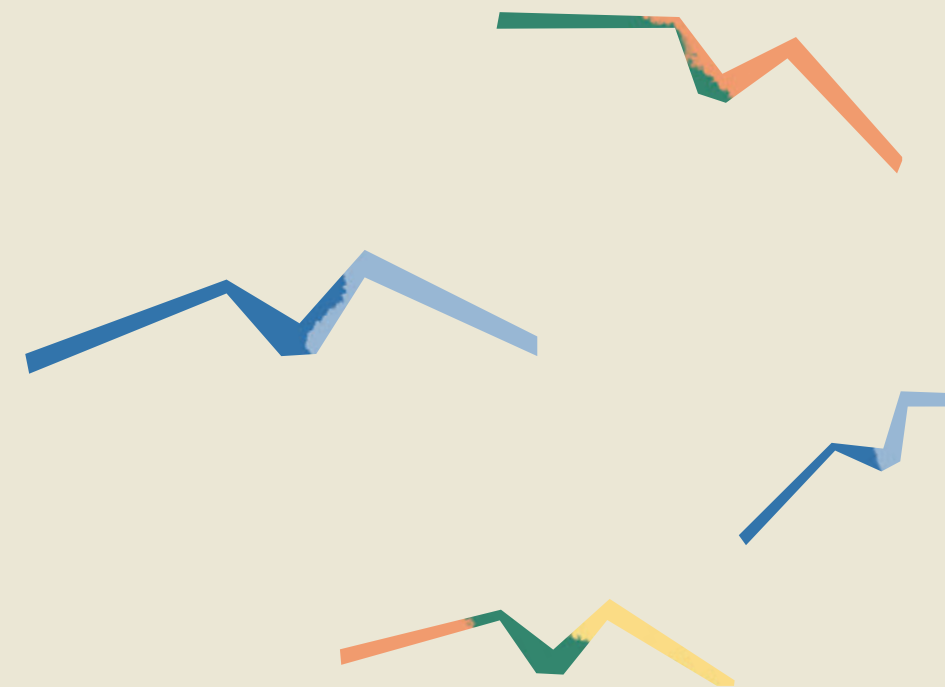
Some of the most interesting aspects of this rich plant universe are:

- 01 The flora of the Stavros Niarchos Park consists mainly of xeriscape plants, which are typical of the Greek landscape and ideally suited for these particular climatic conditions.
- 02 The selection and assortment of plants in the park's premises reflects seasonal variations, so that visitors may witness the amazing shifts in colors, aromas and textures prompted by the alternation of the seasons.
- 03 The majority of the plants at the Stavros Niarchos Park have low water needs. In the planting areas, the soil has been covered with gravel to reduce maintenance and irrigation needs.
- 04 To source the plants, thorough research was carried out to identify the appropriate species and strains that would meet the standards of development and morphology. This resulted in model collaborations with Greek and foreign nurseries, as well as with the Diomedes Botanical Garden and its researchers, who collected seeds from Attica and the Saronic islands.



Key Sustainability Milestones of the Stavros Niarchos Park:

- 01 Seawater is collected and processed through the desalination process and is then used to meet the irrigation needs of all the park's plant material.
- 02 Rainwater is harvested, mostly from the Energy Canopy, recharging the aquifer and reducing its salinity.
- 03 The Daily Plant Conservation Program of the park has been established according to the needs and physiology of each species, aimed at nurturing all stages of each plant's life cycle (growth, blooming, flower shedding, pruning)
- 04 For the park's olive trees and cultivated vegetables, there is a clear orientation towards the use of the fruit produced, before or after processing (e.g., production of fresh fruit and seasonal vegetables, olive oil and olive oil processing by-products, such as soap, which is sold at the SNFCC Store).
- 05 Gradually and steadily, a reduction in overall water needs is being achieved, especially with regard to coniferous trees.

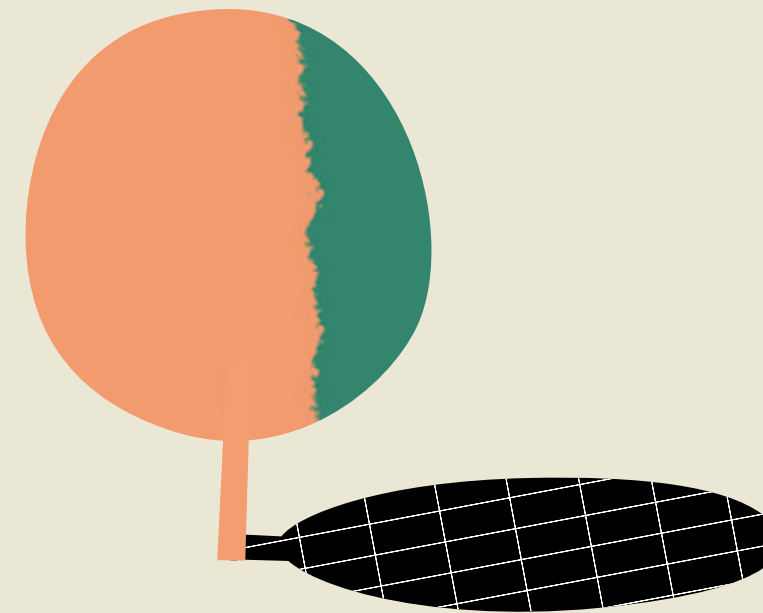


The Stavros Niarchos Park is maintained according to clear scientific standards and rules of good practice. In this context, the rate of ripening and growth is monitored and evaluated so that, when and where necessary, enrichment of the plantings and appropriate handling is carried out to fully correspond to the principles of biodiversity and resilience.

Urban Footprint



The Stavros Niarchos Park was originally designed as a natural extension of the city: The layout of its paths follows the layout of the main roads leading up to its perimeter. The intention was to conceptually integrate Stavros Niarchos Park into the surrounding urban fabric in an organic way, thereby creating a strong connection between the Site and the City.



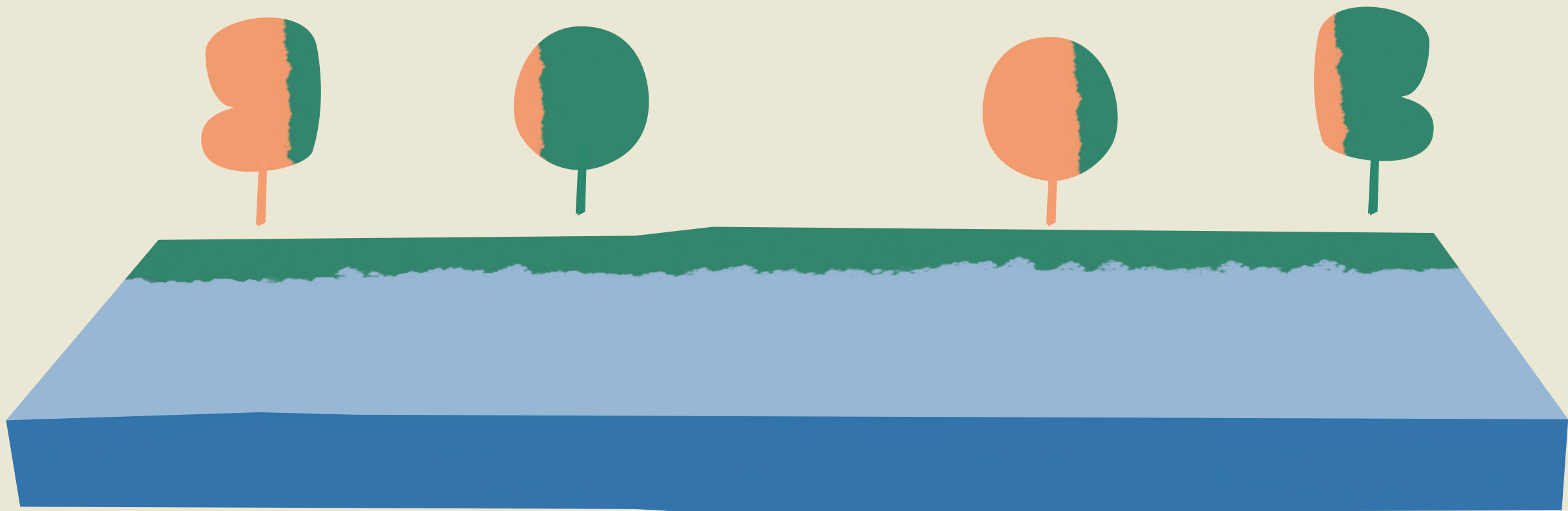
Beyond its key role in the contemporary cityscape of Athens, the Stavros Niarchos Park is a model generator of microclimatic conditions, significantly affecting the microclimate of the wider region.

The trees of the Stavros Niarchos Park produce oxygen, increase atmospheric humidity, participate in the hydrologic cycle and provide shading; they thus reduce the temperature of the urban environment and drastically improve environmental conditions.

The Green Roofs over the buildings of the National Library of Greece, the Greek National Opera and the Parking Space, contain dust and dirt and absorb, instead of reflecting, noise and solar radiation, thus reducing the phenomenon of the "urban heat island." They are also involved in rainwater management and rational water management. Through their photosynthesis, plants across the vast Stavros Niarchos Park absorb carbon dioxide and release oxygen.

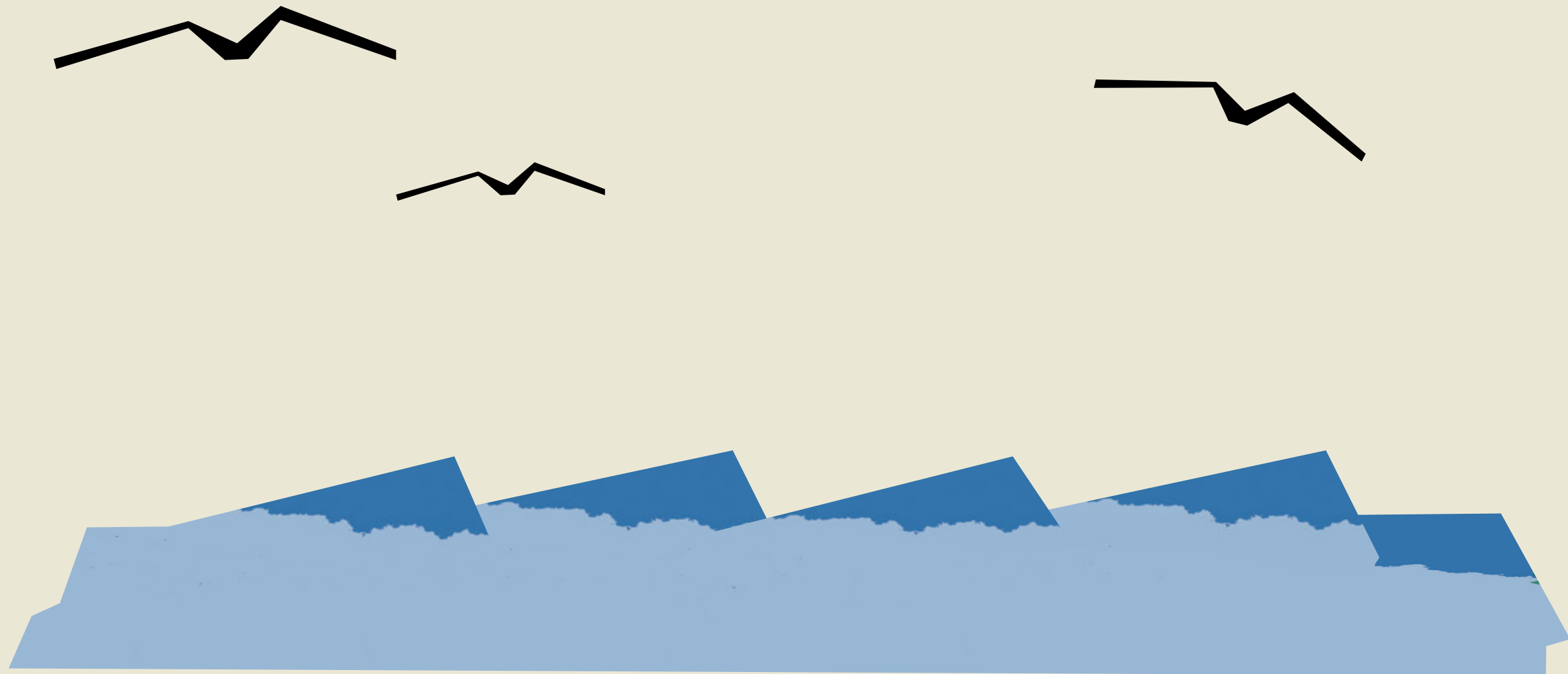
The SNFCC Canal

The Canal is one of the most characteristic elements of the SNFCC. Its design was aimed at redefining the relationship of the area with the sea; not only in terms of the view, but also in terms of its physical presence.



The Canal is 400 m long, 30 m wide,
and has a depth ranging from 70 to 120 cm.

The water comes from the sea and is processed in reverse osmosis units. The treated water is used for irrigation, while the remainder is fed back into the Canal and eventually back to the sea.



Key Information about the SNFCC Canal:

- 01 Once or twice a year, a scheduled cleaning of the Canal takes place. It lasts about 4 weeks and includes draining the water, cleaning the bottom and sides with brushes and high-pressure water, as well as cleaning the pipes and pumping stations.
- 02 The strict environmental specifications of the SNFCC and its LEED platinum certification prohibit cleaning the Canal water with chlorine or other chemical agents.
- 03 Water quality is constantly monitored.
- 04 The Canal also acts as a flood control structure.

Rainwater Runoff Control System

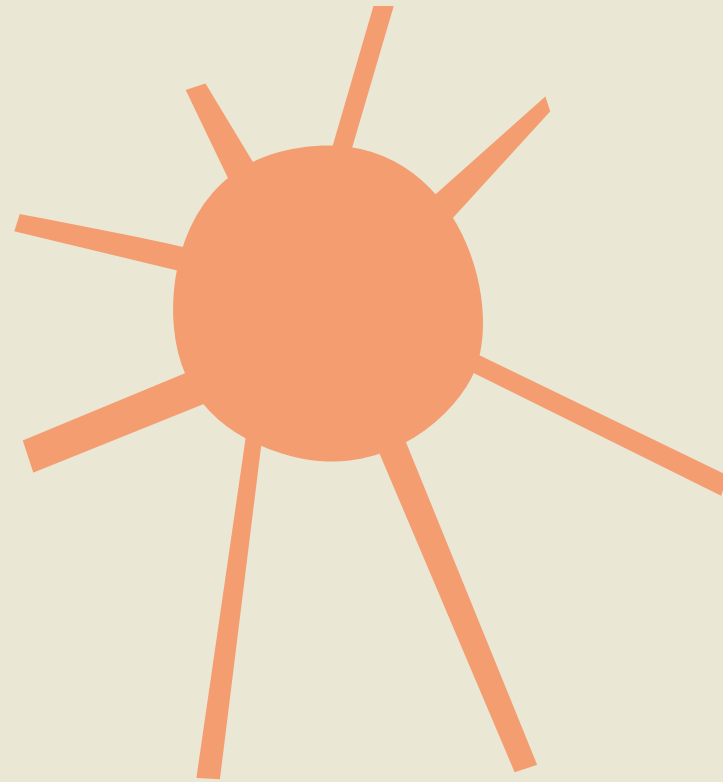


The project's rainwater drainage design aims to meet the following key target criteria:

- 01 To avoid burdening public drainage networks of excessive storm runoff with soil sediments from the site
- 02 To effectively protect the premises on site from flood phenomena



One of the main means to achieve this is the installation of special systems (SUDS - Sustainable Urban Drainage Systems), which ensure controlled discharge of rainwater both within the SNFCC site and towards the public networks. These systems also meet the specific LEED design criteria. The key elements of the SUDS are traditional rainwater containment trenches, combined with technologically advanced underground reconditioning tanks, consisting of special cellular synthetic industrial production boxes. These boxes act as temporary storage and cleaning tanks for the rainwater before its final disposal, with controlled flow and quality, onto the public networks.



Energy

Like every high-traffic public venue, the SNFCC has increased permanent needs for heating, cooling, air conditioning, lighting and hot water. From the outset, our goal was to meet these needs while keeping our primary energy consumption to a minimum.

Smart Systems

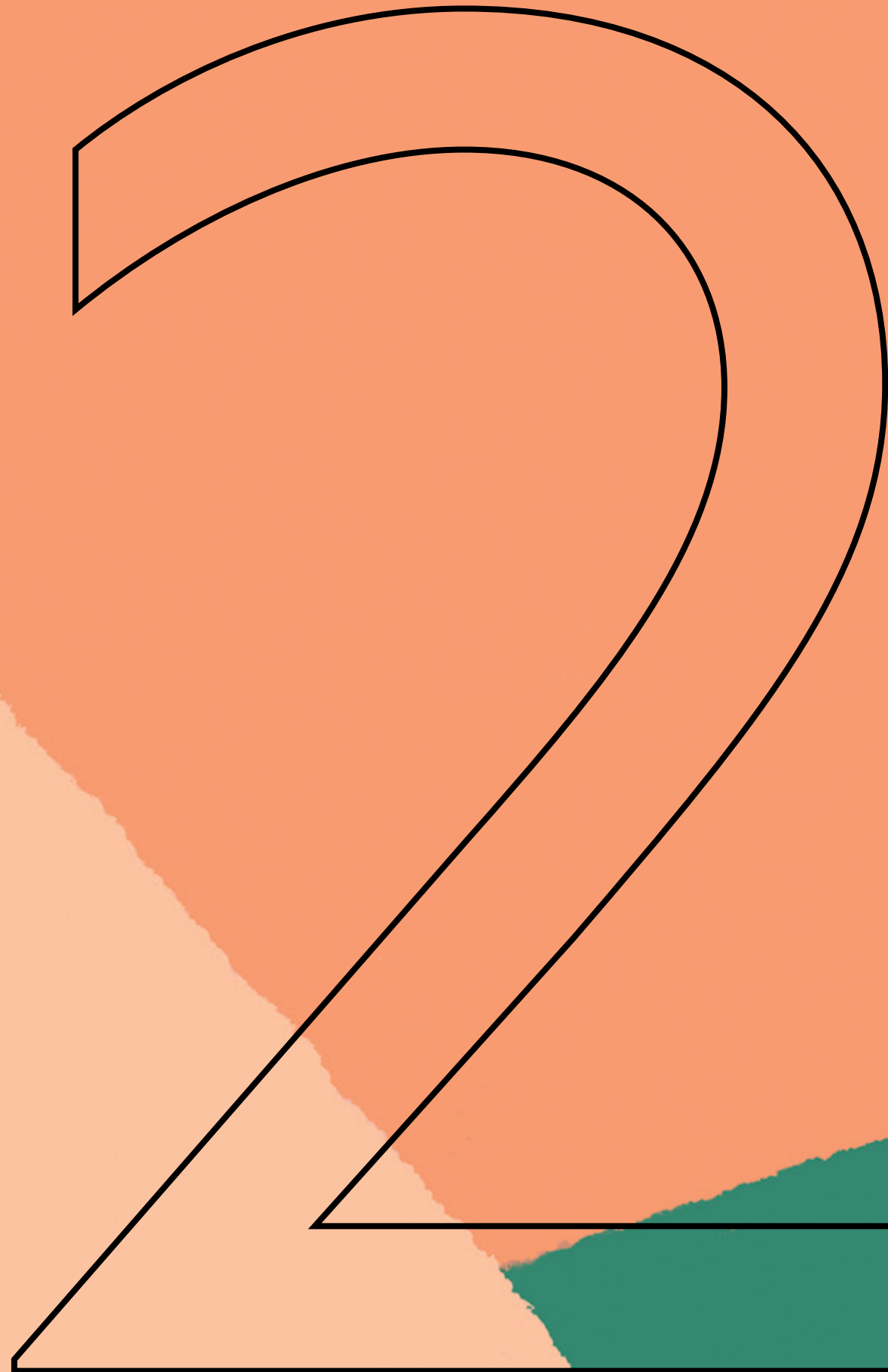
The Green Roofs over the National Library of Greece, the Greek National Opera, and the Parking Space buildings are covered with Mediterranean plants grown in a special substrate. This substrate and the plants create cooling conditions for the buildings and act as a protective layer in both winter and summer.

Interesting facts:

- 01 The facades of the SNFCC buildings are equipped with dynamic shading devices.
- 02 The production of hot water for air conditioning burns natural gas instead of oil. Heat recovery technology preheats water for use and heating.
- 03 Air systems feature free cooling, that is, they take advantage of outdoor temperature during transitional seasons to reduce the electricity consumed by air conditioning.
- 04 In many parts of the buildings, especially the tall ones, air conditioning is conducted through a low-speed airflow temperature stratification. As a result, the space is fully air-conditioned only up to the highest level that is accessible to visitors instead of in its full height.
- 05 Most of the lighting comprises LED technology, providing maximum possible power savings.
- 06 All lighting is controlled through a central smart management system, in which optimal timing settings make it possible to keep lights on only when required. A cornerstone of SNFCC's architectural design, maximizing the use of natural lighting is another key contributor.
- 07 Additionally, most buildings are equipped with motion detectors, so that lights are turned off when there is no human presence.



Everyday life at the SNFCC



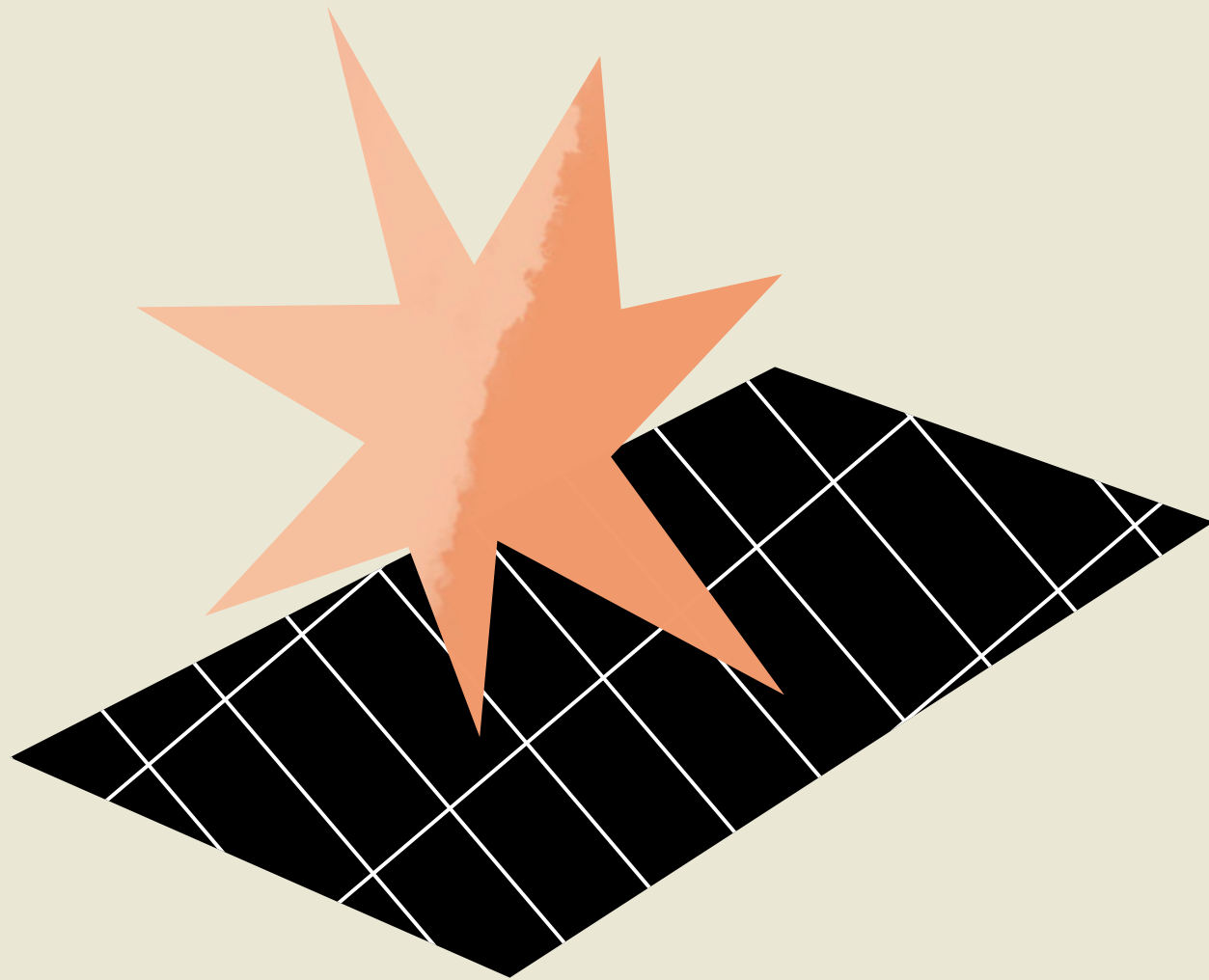
From construction
to operation

In addition to its design and construction, sustainability objectives also govern the operation of the SNFCC.

The buildings and the Stavros Niarchos Park are maintained to ensure the project's sustainability, addressing daily challenges and building on the potential for development.



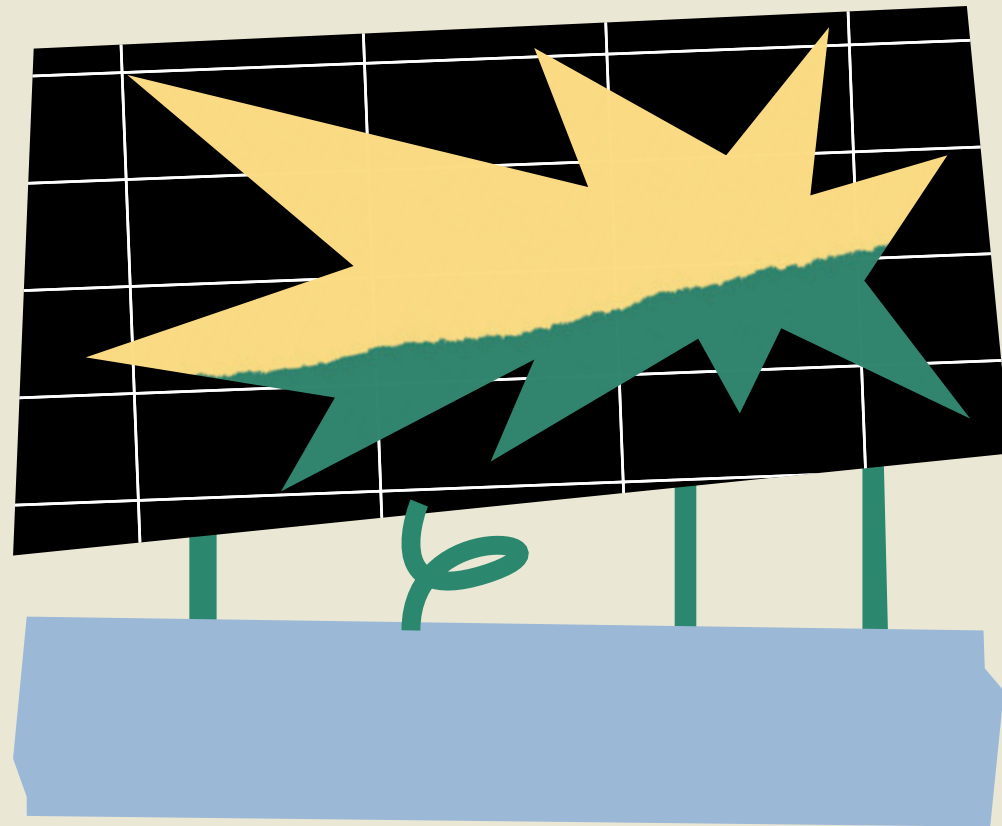
Energy



Since 2018 and every year, 100% of the electricity consumed by the SNFCC comes from renewable energy sources. Almost 24% of our electricity needs are covered by the SNFCC solar panels, while the remaining 76% is covered by renewable energy (wind) from our provider.

The Energy Canopy

The contribution of the Energy Canopy is crucial, because the energy it saves corresponds to significant savings. This in turn impacts positively on the costs of the organization, while the relevant data shows that the energy production fully meets the initial estimates.



Challenges:

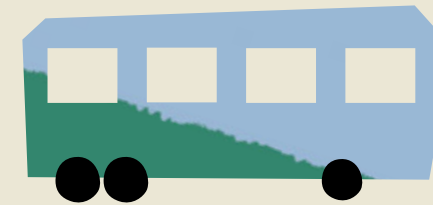
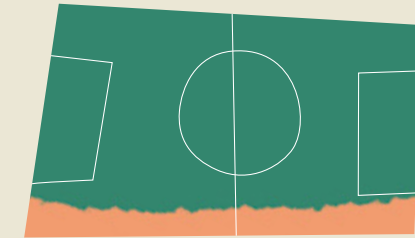
Based on statistics, in 2021 we experienced the warmest summer of the past 43 years. This resulted in increased energy needs in the air conditioning system by 7.05%, while also leading to a 9.1% decrease in the efficiency of the solar panels.



17 m over the building of the Greek National Opera and the Lighthouse
47 m above sea level, a massive canopy is suspended.

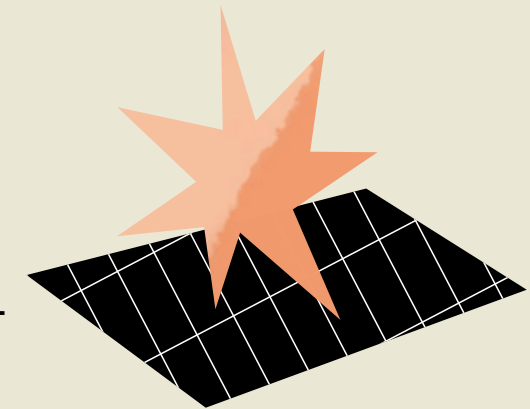
100x100 m

The canopy measures one hectare, roughly equal to **1,5 football fields**



At **4.500 tons** the canopy weighs about as much as **160 tri-axle buses**.

This impressive structure is covered with **5,700 solar panels** and can produce up to **2.2 gigawatt-hours (GWh)** per year, substantially contributing to the SNFCC's energy needs and minimizing CO² emissions.



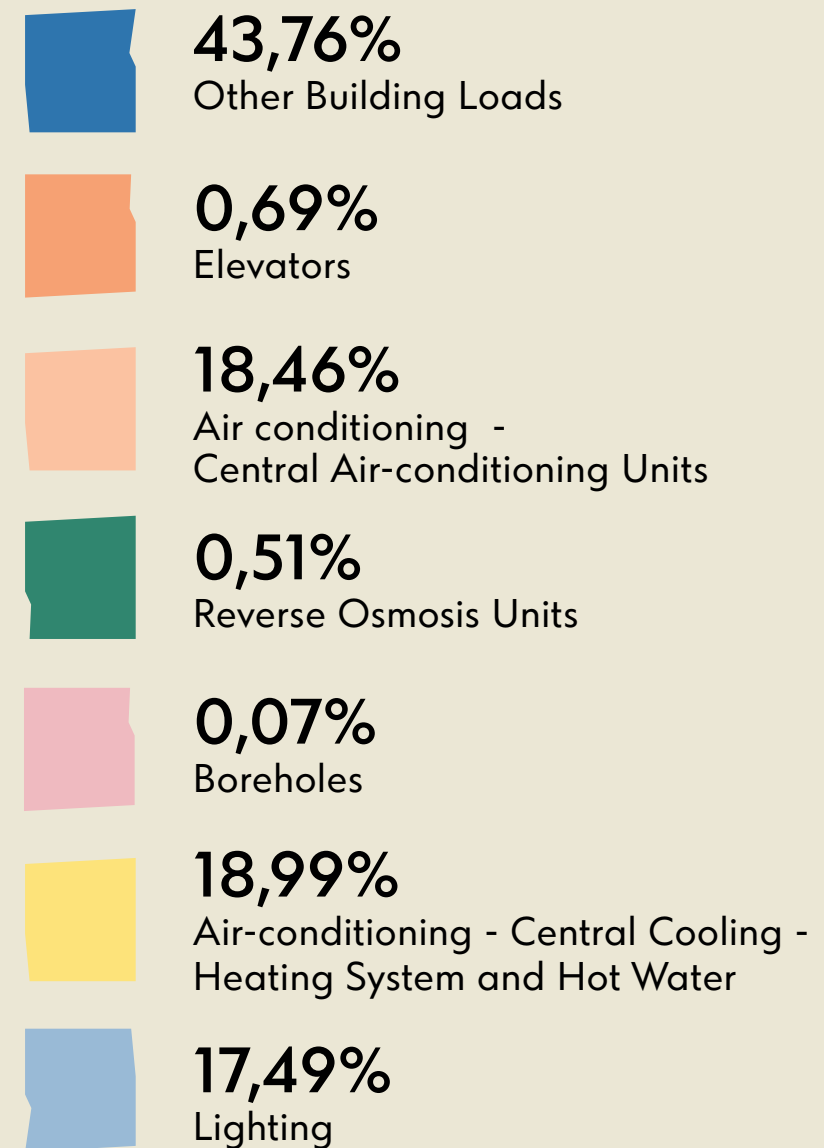
At certain times during the summer, the Canopy can meet even **100%** of the SNFCC's energy needs.



Energy distribution

Using the advanced energy monitoring systems available at the SNFCC, we are able to safely draw the following conclusions:

Air-conditioning and heating water for use make up 55% of the total energy consumption, combined with an extremely low rate of lighting at 18%. An interesting observation is the very low amount of energy spent by the reverse osmosis of sea and brackish water (0.51%). This is of particular importance, as with very little energy these two units produce almost all the irrigation water needed for the Stavros Niarchos Park and the surrounding area, saving both energy and water resources from the water supply network, as well as financial resources.

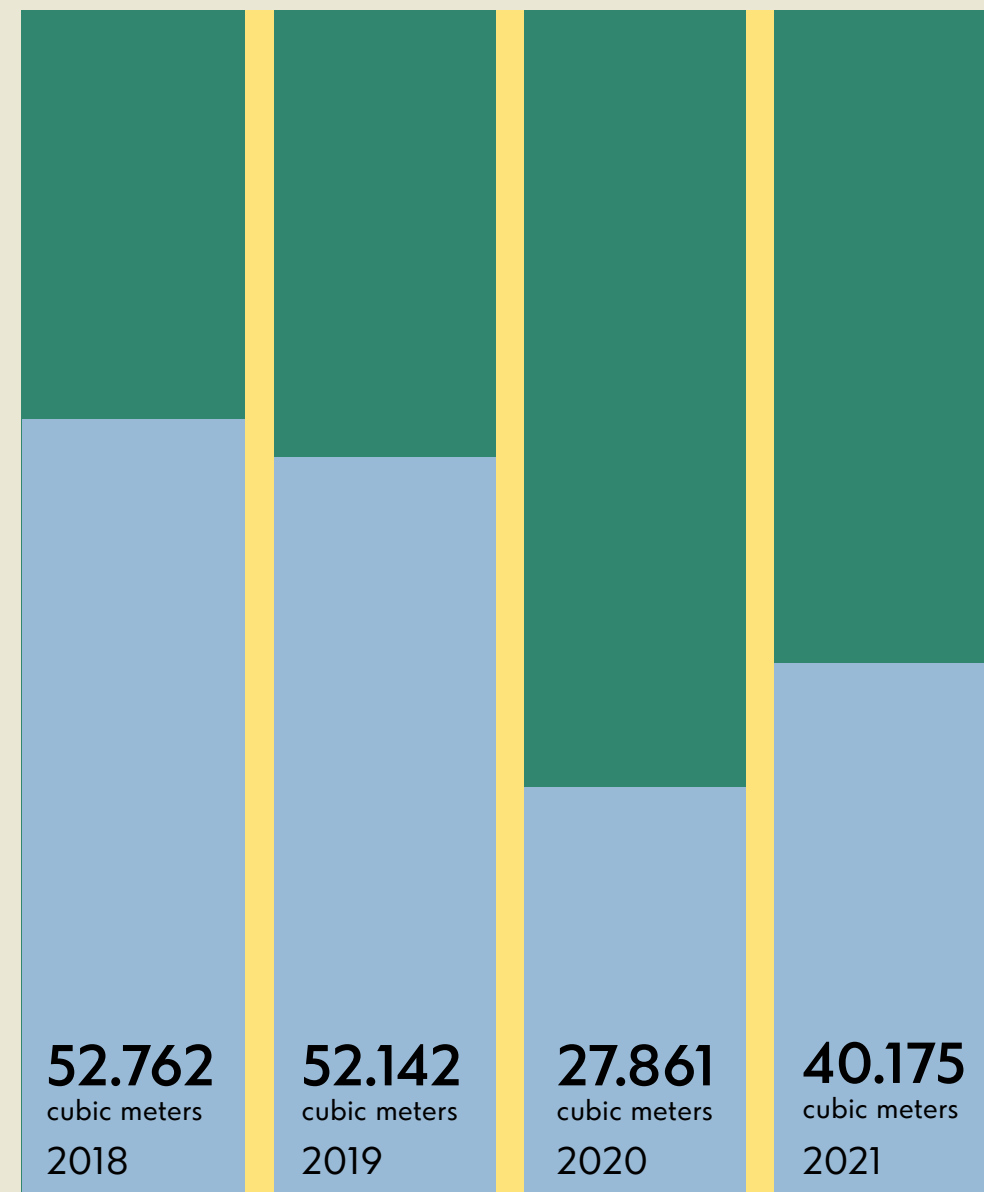


Water Management

SNFCC and the Stavros Niarchos Park are designed to be as self-sufficient as possible in their water needs: irrigation of green spaces, non-drinking water applications, and water used in the Canal.

Of great importance is the contribution of the marine and brackish water reverse osmosis units. The water produced by these two units is used in irrigation, thus minimizing the burden on the public drinking water network.

Total irrigation water production



Interesting facts:

- 01 Automated irrigation and use of plants with reduced irrigation requirements
- 02 Underground drip irrigation instead of surface irrigation
- 03 Soil covered with river gravel that prevents the water from evaporating
- 04 No public network drinking water usage for irrigation
- 05 Contribution of the buildings' rainwater harvesting network to aquifer recharge

What happens in the sanitation facilities?

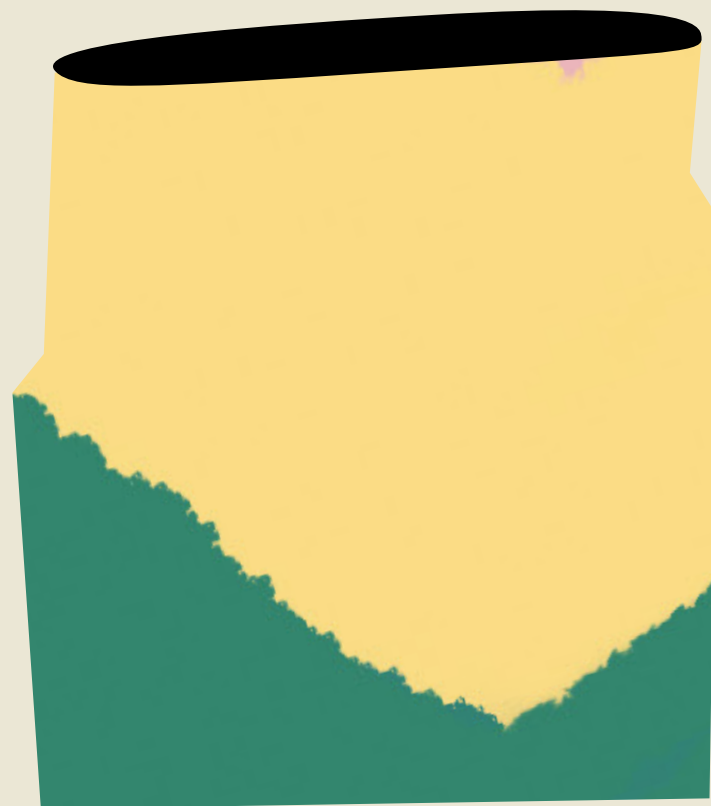
- 01 Photocell-controlled basin taps so that no water is wasted unnecessarily
- 02 Photocell-controlled urinals and dual-flush toilets
- 03 Cleaning and reuse system of 85% of gray water* produced, for the toilet cisterns in the building of the Greek National Opera



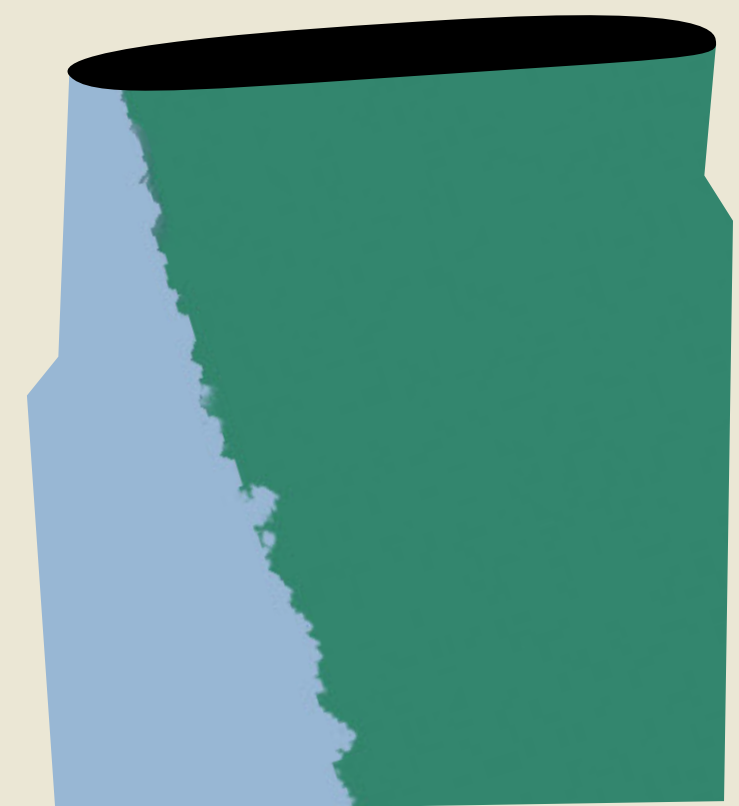
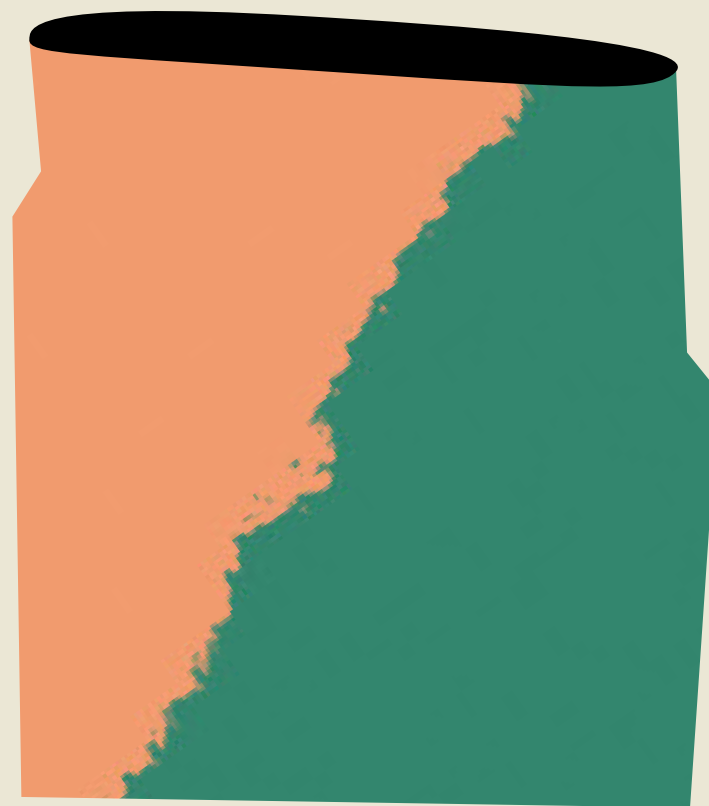
*What is gray water?

Gray water is water that has already been used by washing machines, kitchens, taps and bathtubs. After processing, it can be reused in toilet cisterns, for surface irrigation and for cleaning operations. Recycled water is clear, without chlorine or other chemical consumables. In SNFCC, gray water is reused in toilet flushers.

Waste management and recycling



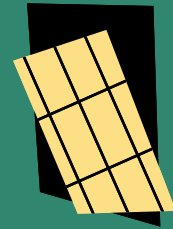
The SNFCC has developed processes that encourage recycling by both staff and visitors.



Waste management and recycling



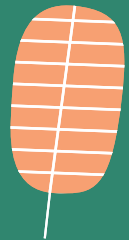
Light Bulbs



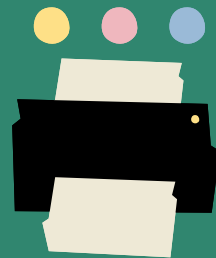
Paper - Cardboard



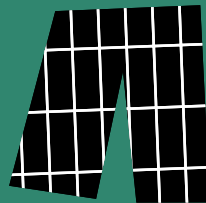
Mud



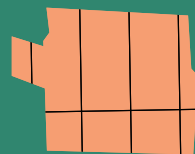
Plant Material



Printer Ink Cartridges



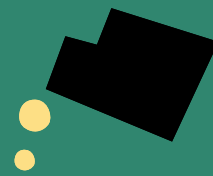
Clothes



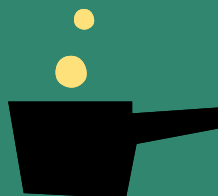
Wood



Household Batteries



Maintenance Lubricants



Cooking Oils



Special Equipment Batteries



Electrical Equipment Waste

In 2017, the recycling programs were launched at the SNFCC based on the separation of waste at source. According to the detailed Waste Management Plan, 15 different recycling streams were installed.

At the SNFCC, the public can recycle paper, metal, and plastic in receptacles in many locations across the site, while glass, household batteries as well as textiles and clothing can be placed in designated bins. Additionally, there is special care taken for waste arising from maintenance work.

The collection, sorting and recycling of waste at the SNFCC is carried out exclusively by its own means, through a contract providing integrated management services. The SNFCC also has the obligation to submit annual waste producer reports to the Digital Waste Registry of the Ministry of Environment and Energy.

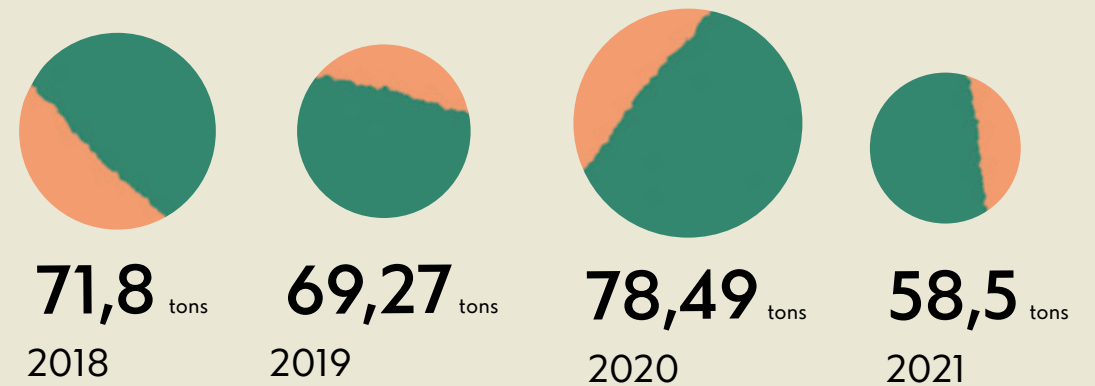
At the end of 2019, the SNFCC waste assessment was launched in cooperation with the service provider.

The Waste Management Plan covers two axes:

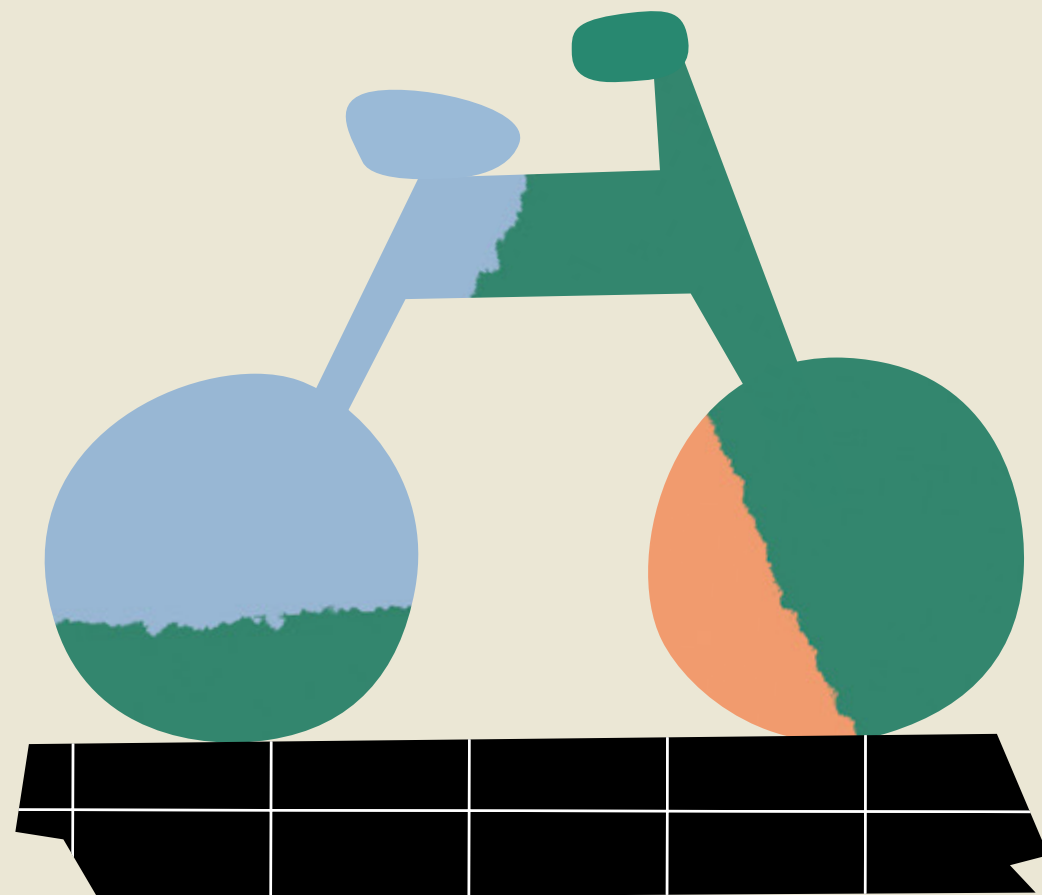
- 01 Assessment of the quality of the SNFCC's recyclable materials and identification of impurities in relation to the recyclable material percentage, at the site of final waste disposal in the recycling unit
- 02 Analysis of the quality of the composition of recyclable bins in the collection phase within the waste collection area of the SNFCC. The objective is to assess the quality of recyclable materials per bin and to determine the impurities in relation to the recyclable material content

It is worth noting that even the quantities that cannot be recycled are forwarded, through appropriate cooperation, towards energy utilization (RDF - Refuse Derived Fuel production). As a result, almost zero amount of waste from the SNFCC eventually ends up in landfills.

Total recycling materials per year:



Sustainable Mobility & Transport



Committed to sustainable mobility, the SNFCC fosters a cycling culture where bicycles are used as a means of transport, exercise and recreation.



Bicycles

- 01 Within the SNFCC, a 2.5-km-long bike lane has been created, connected to the Municipality of Kallithea bike lane and the metropolitan bike lane network of Athens.
- 02 At various points of the SNFCC, there are secure bike parking racks for people who opt to reach us by bike.

Getting to the SNFCC

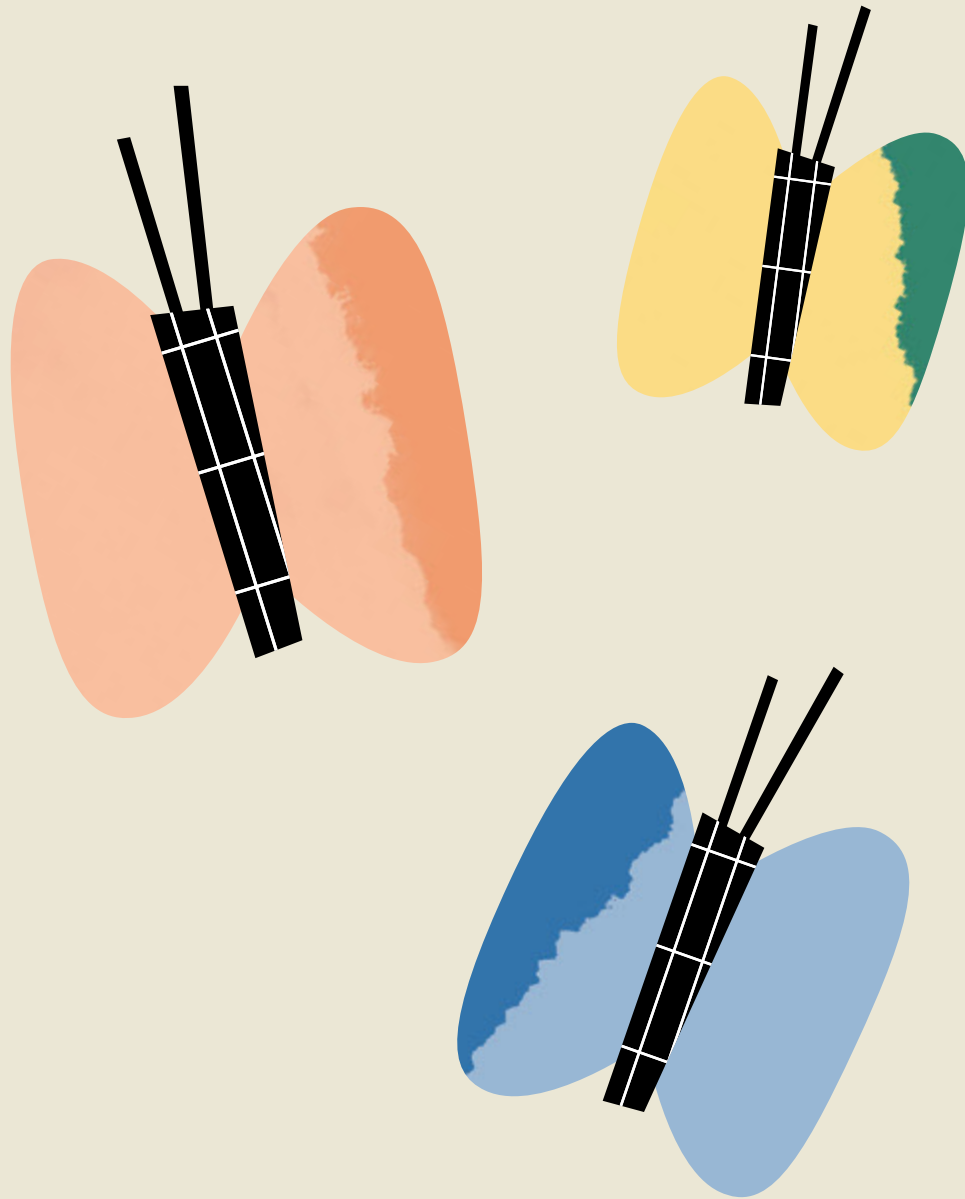
- 01 Since 2017, there is a regular free shuttle bus service, operating along the route Syntagma–Syggrou-Fix–SNFCC and serving more than 150,000 passengers per year.
- 02 For the movement of staff and associates of the SNFCC around the Stavros Niarchos Park, electric utility vehicles are used with the goal of containing CO2 emissions.
- 03 By taking the Esplanade of the SNFCC that crosses over Poseidonos Avenue, one can bike from Kallithea to the Floisvos seafront.

Culture and Green Mobility

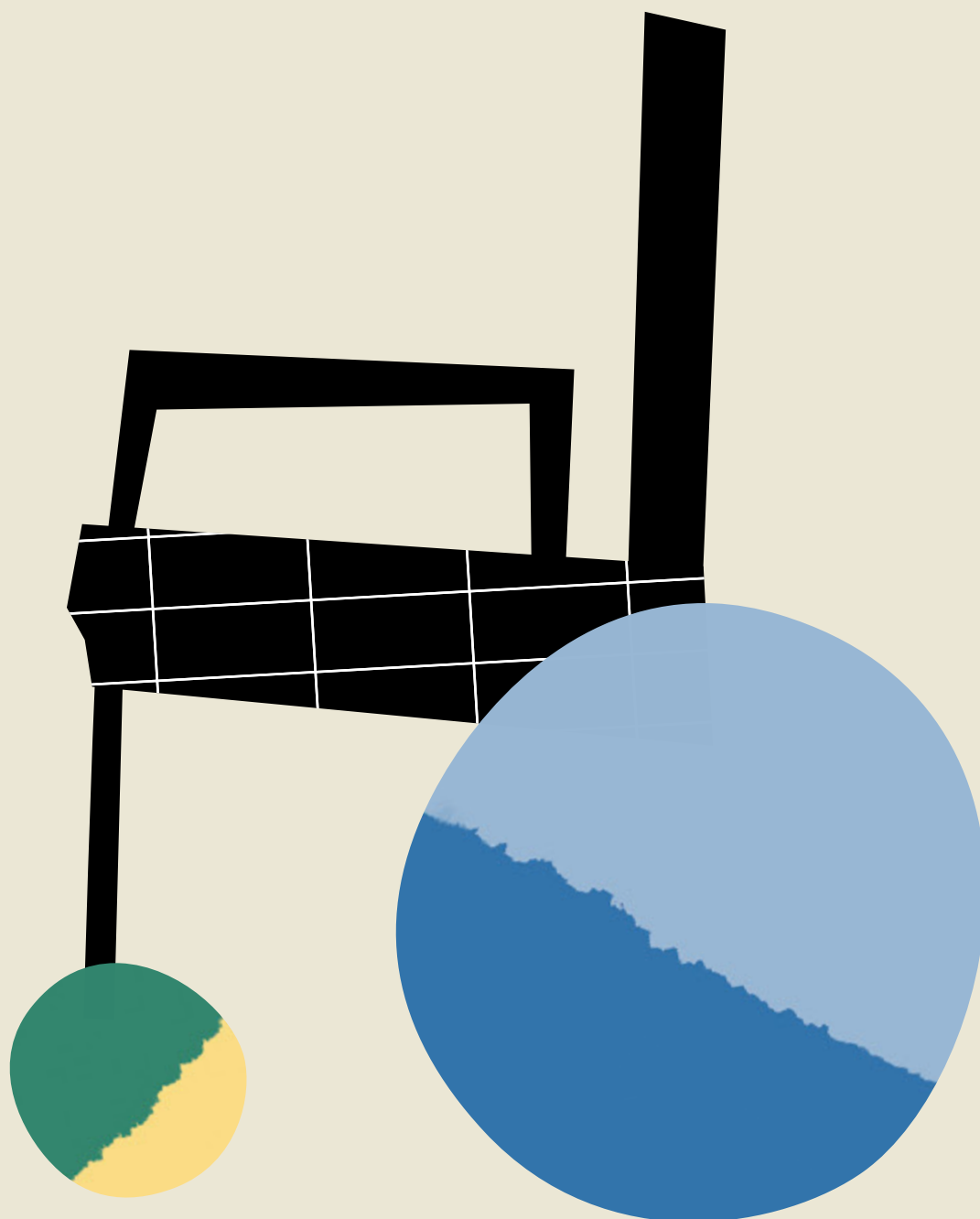
As a model of environmental sustainability, SNFCC focuses on the adoption of innovative, globally recognized practices via its new “Culture and Green Mobility” initiative. The immediate objective is to raise public awareness of electromobility and zero-emission mobility by offering:

- 01 Accessible spots for parking and recharging electric vehicles with the establishment of the necessary infrastructure.
- 02 A public awareness-raising campaign that will highlight a new “culture of urban mobility”, which includes accessibility, improving the quality of life and the environment, as well as economic development.

Visitors



SNFCC is a public space, with free access and formative public participation in a wealth of cultural, educational, sports, environmental and entertainment events and activities. The design and construction of the SNFCC, including the Stavros Niarchos Park, contributed to the remodeling of the area of Kallithea and the Faliro seafront, by breathing life into a space that had remained discredited for many years. In the SNFCC, all individuals are welcome without exclusion and are encouraged to interact with the venue and with each other in an unprecedented way, thus developing a mutual relationship of reciprocal respect.



Accessibility: An inclusive and welcoming place

True to its pledge to be open to all, the SNFCC is designed and operated to be fully accessible to people with disabilities. Each of its internal and external points is accessible to people with disabilities and wheelchair users while educational programs are implemented that encourage cooperation between children with and without disabilities. Special care has also been given to people over 65 years of age who may have reduced mobility.

But our commitment does not stop in the design and construction of our facilities. Our aim through our services and programs is to listen daily to the new or different needs that arise, to evolve, to educate and to better prepare our staff. At heart, our mission is to expand our work for our visitors and potential visitors, as well as for the culture of inclusion in our society.

From the beginning of its operation, the SNFCC has chosen to be a responsible social partner, maintaining direct contact with and supporting sensitive social groups. Among others, it has cooperated with Special Olympics, Athens Pride, Social Fashion Factory, El Sistema Greece, the Shedia street magazine and the International Organization for Migration.

- 01 All SNFCC spaces are fully accessible to people with disabilities.
- 02 There is a hearing aid system in the lecture halls and both stages of the Greek National Opera.
- 03 In the Stavros Niarchos Hall of the Greek National Opera there are seats for wheelchairs, and special elevators for their access.
- 04 There are pavers for the visually impaired in the outdoor spaces of the SNFCC.
- 05 At the entrances of the premises, automatic doors open at the press of a button to facilitate wheelchair access.

Sustainable Gastronomy

Delta Restaurant is a worthy representative of the Greek haute cuisine that adopts a pioneering sustainability framework.



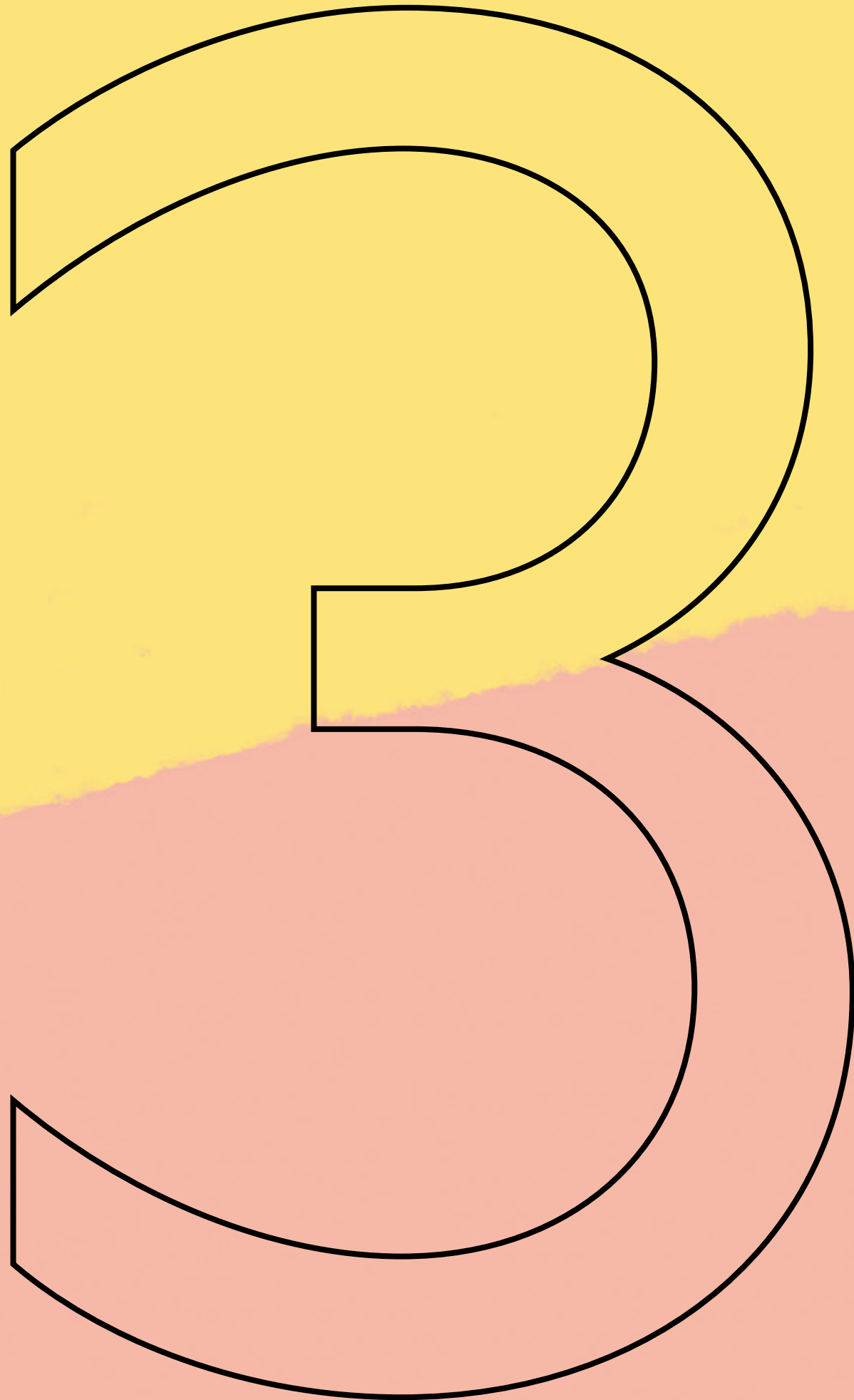
A restaurant of refined modern Greek haute cuisine opened its doors at the SNFCC by Dipnosofistirion. Delta was created through an initiative and a grant by the Stavros Niarchos Foundation (SNF). It aims to become a landmark culinary destination in line with the high standards of the SNFCC and to share Greek cuisine around the world. The creation of a pioneering restaurant at the SNFCC complements SNF's vision for the cultural institution, which is public space for visitors from Athens and around the world, but also a model of environmental sustainability in terms of design, construction, operation, and footprint in the wider ecosystem.

Following a "nothing lost—nothing wasted" philosophy, Delta adopts a sustainable mode of operation that respects the resources of nature, while simultaneously raising public consciousness around the importance of sustainability and foodways. Every ingredient is used creatively at Delta and nothing is thrown away or wasted. Moreover, to discourage intensive farming, priority is given to vegetables and fruits, with a focus on the principle of locality and proximity.

The Delta team works with small producers who engage in traditional and mild forms of agriculture and livestock farming; it also maintains an 8-acre farm in the Mesogeia region, which supplies the restaurant with edible flowers, vegetables, fruits of trees, eggs and poultry.

Delta's green philosophy can be summed up by: a rational management of waste by composting; the reduction of water and energy consumption; cooperation with local producers; and the exploitation of seasonality. The restaurant also hosts educational programs, activities and workshops to promote the concepts of sustainability, sustainable development and responsible management of natural resources.





Awareness & Education

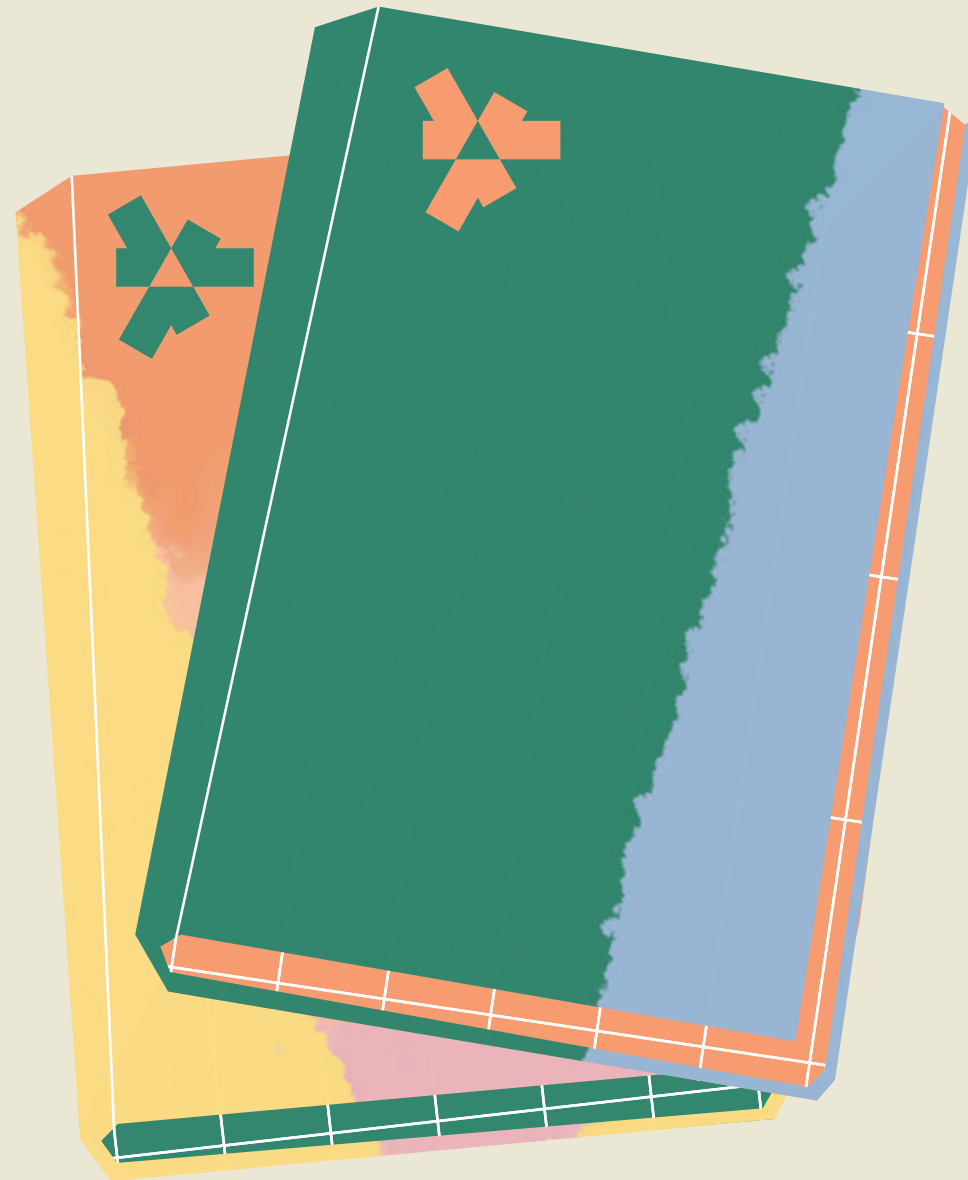
From theory
to practice

Since its first years of operation and thanks to the exclusive grant of the Stavros Niarchos Foundation (SNF), the SNFCC has managed to be a hub of awareness, information and education, with a dual social role: on the one hand, it offers the forum for groups and institutions to share their knowledge about sustainability issues; and on the other, it deploys its natural resources in such a way as to

produce valid and relevant content, give food for thought, and facilitate the engagement of active citizens. Whether in person or online, visitors of all ages experience the SNFCC in light of the lessons of sustainability, aiming among other things to inform, cause to reflect on, and mobilize for, a modern, sustainable ecosystem.



School Programs



With a central focus on sustainability, public space, sport and the arts, the SNFCC School Programs offer knowledge and the right tools for the next generation to leave its own social footprint. Through immersive activities, educational seminars, interactive workshops and digital productions, environmental education of students and teachers is an integral part of the SNFCC sustainability strategy.

School Visit Programs

They were launched in the SNFCC's first year of operation, and more specifically in October 2016, with the goal of raising awareness of climate change and sustainability and to initiate an ongoing cooperation with the school community on topical issues.

Educational Programs

Bioclimatic design, renewable energy sources, climate change, plant cultivation, recycling - these are the themes of the SNFCC educational programs for schools, while the tools used are experiential learning, new technologies, VR headsets, plastics recycling workshops, cultivation and STEM labs.

- 01 Creation of a 360° VR video for children's virtual tour around all the "green" areas of the SNFCC, from the Mediterranean Garden and the reverse osmosis units to the interior and exterior of Stavros Niarchos Park
- 02 Plastics recycling workshop: Students at the workshop shatter the plastic they have brought from their home, melt it and create new products from recycled plastic

Each week, there are an average of **10 sustainability programs** for all educational levels from kindergarten to high school, including special education schools.



“

Aigira High School

We would like for all this know-how to be transferred to society in order to raise awareness among social groups of a better and humane environment. The program is very good and particularly helpful for our young students.

132nd Primary School of Athens

The experiments were fascinating and functioned in a very positive manner as a complement to the Physics curriculum. The animators were great with the children, very knowledgeably, and even helped with translating, given the interculturality of the school. Thank you!

”

School Walks

Every day, the Stavros Niarchos Park hosts thousands of students as they carry out their school walk. Children have the opportunity to spend time and tour freely in the Park, which is the largest public Mediterranean garden in the world.

During the first five years of its operation, the SNFCC has been welcoming the school community on a daily basis, hosting more than 5,500 school visits and 380,000 students.

5.500

School Visits

380.000

Students

Exploring the SNFCC: School Bags

The program "Exploring the SNFCC: School Bags" allows school groups to participate in educational activities at the SNFCC. This is a self-guided program, in which the school teacher borrows the educational material and conducts the program with their students, at whichever time they choose to visit the SNFCC. To implement the program "Exploring the SNFCC," the educational materials are provided on loan with the necessary instructions and suggestions, while each student receives a bag containing useful tools, guidelines and maps to help them navigate the outdoor areas of the SNFCC. The teacher coordinates the process and guides the students, encouraging them to participate actively in each stage of the program.



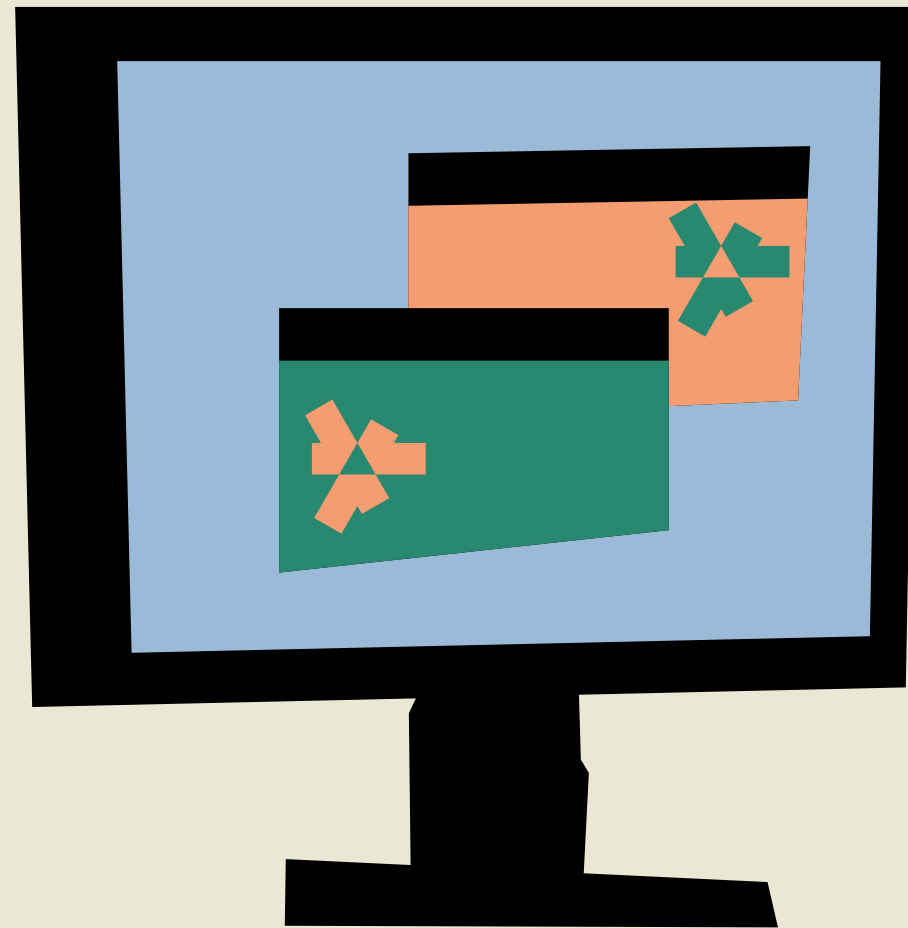


Walking with the Sun

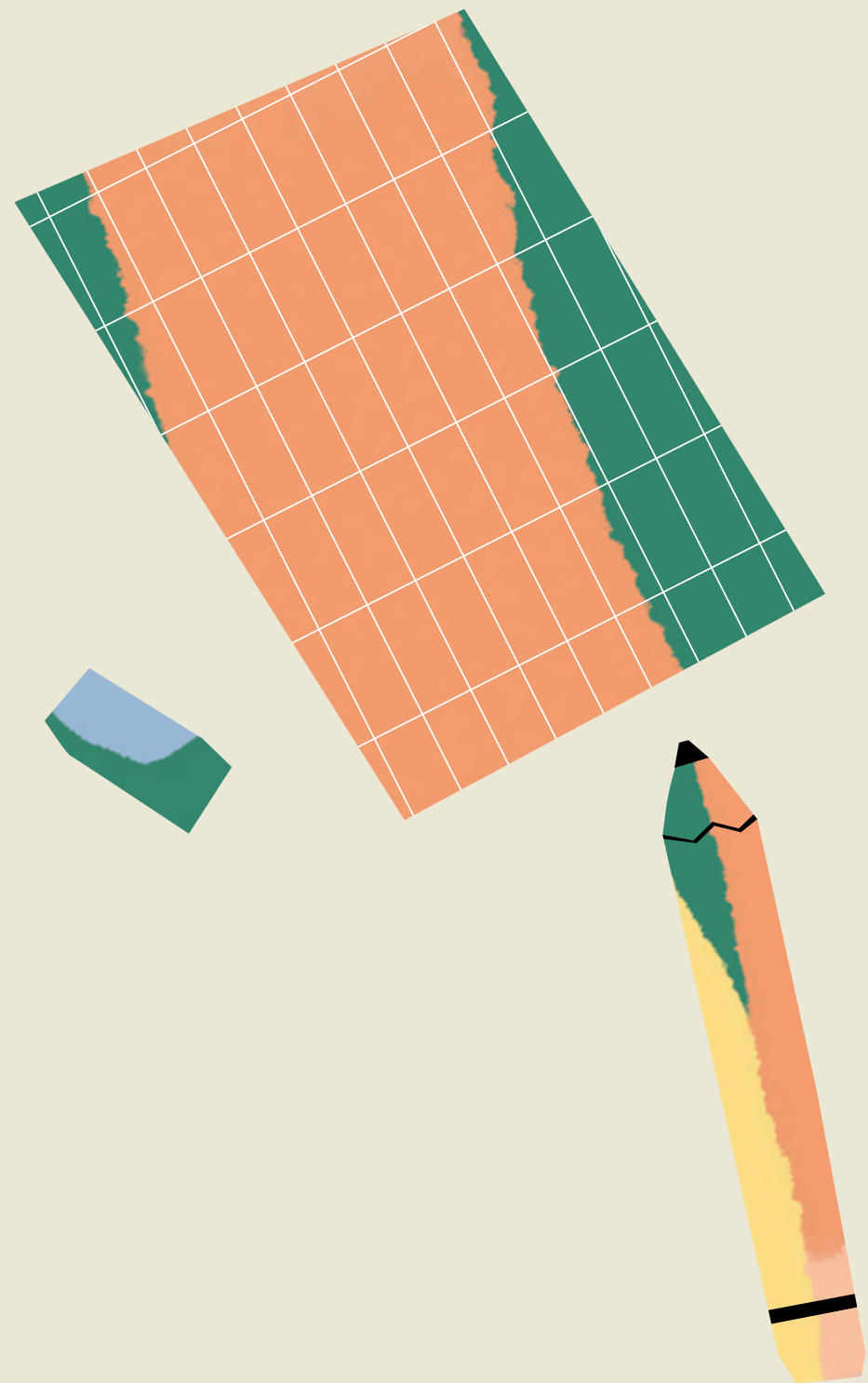
In the open, sunny space of the Stavros Niarchos Park, students discover basic elements and concepts related to the Sun and its significance in our lives. They measure the temperature of various objects with special equipment, learn how to orient themselves with the presence of the sun, play with light and shadow, and create shapes conjuring their own original stories. Students learn about the concept of evaporation and about the solar energy provided by the sun to the SNFCC Canopy, our city and our lives.



Digital Educational Programs for Students and Teachers



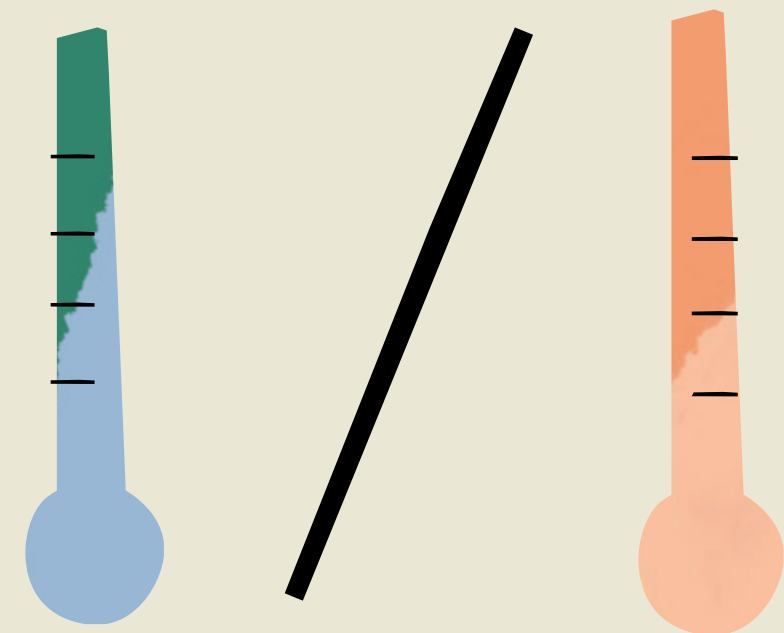
In one year, more than 1,100 teachers from across Greece and from Greek schools abroad have participated in the SNFCC Class. During that same time, we received more than 600 works created by students in the context of the program's projects.

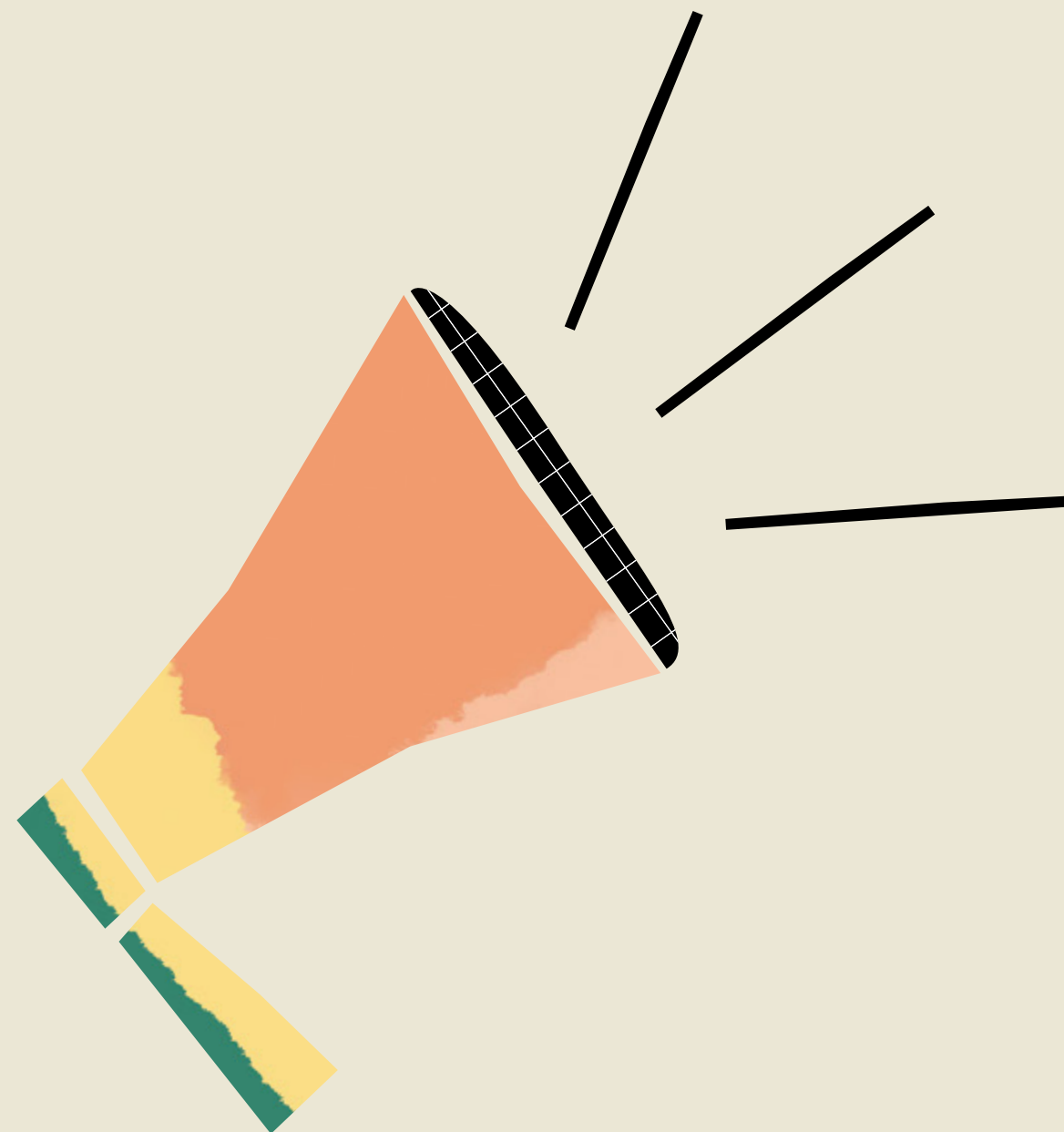


SNFCC Class

The SNFCC seeks to actively participate in school life and is always looking for new ways to inspire and engage the students and teachers of Greece, beyond geographical limits. Thus, 2020 saw the design of the SNFCC Class, an educational platform that enables teachers to select integrated school curricula in digital form and implement them in their own classroom. All of our school curricula are specially designed to complement the curriculum of each level of primary and secondary education, enriching the teaching process in a way that is both educational and entertaining. With a focus on flexibility, the SNFCC Class allows teachers to enroll in their chosen school curricula and implement them over a period of five weeks, setting the schedule that best suits their class. Thanks to the SNFCC Class, we managed to open dialogues and cooperate with schools all across Greece on the issue of climate change. After the completion of each school curriculum, a certificate of attendance is provided.

The first courses to be offered addressed the themes of sustainability by essentially redesigning in digital form the educational programs of the School Visits. Thanks to the SNFCC Class, we had the opportunity to expand our geographical boundaries and reach schools that find it difficult to access the SNFCC. Students from all parts of Greece, from Pomakochoria to the villages of Crete, from the mainland to the islands, sent us their projects and works on the theme of climate change.





“

Aghios Athanasios Special Education Primary School

It was a journey filled with sensory accomplishments and knowledge for all of us! We played with the soil, we watered, we smelled, we took care of the land and plants that we learned about from the program of the Stavros Niarchos Foundation Cultural Center. Thank you for all that we experienced and felt. With autism, if you don't feel, smell or touch, you don't learn!

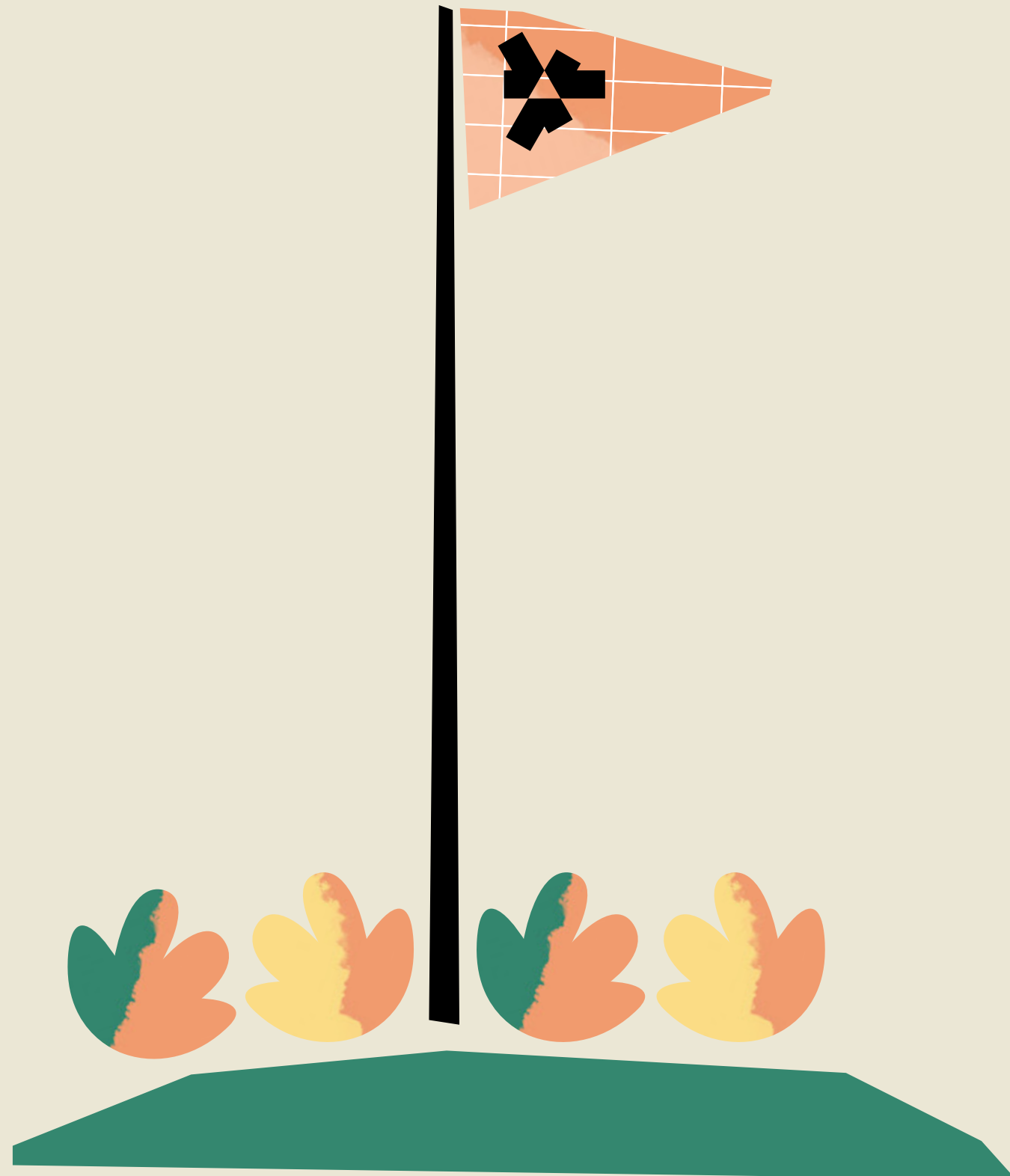
1st Primary School of Kalamata

The students were very impressed by the program. It kept us company during the lockdown. It was brilliantly designed and worked wonderfully on Webex. We completed it in class. Thank you very much for the opportunity you have given us to meet you.

1st Primary School of Nevrokopi

The children were so enthusiastic!!! They worked with a lot of energy, individually but even better as a team! The program "Sustainable Planet" was a wonderful opportunity for research and artistic creation, live in class! Our students sang, painted, made jigsaw puzzles and board games... We look forward to other such programs! Thank you!

”



Ideas in the Classroom

These are 40-minute online workshops for teachers of primary and secondary education, where simple, small-scale activities for the school class are presented and educational material is provided, which participants can utilize in their classroom afterwards. Some of the themes are "The art of upcycling," "Recycling as a class," "Learning from collections," as well as brief webinars providing teachers with material they can use to work on with their students.

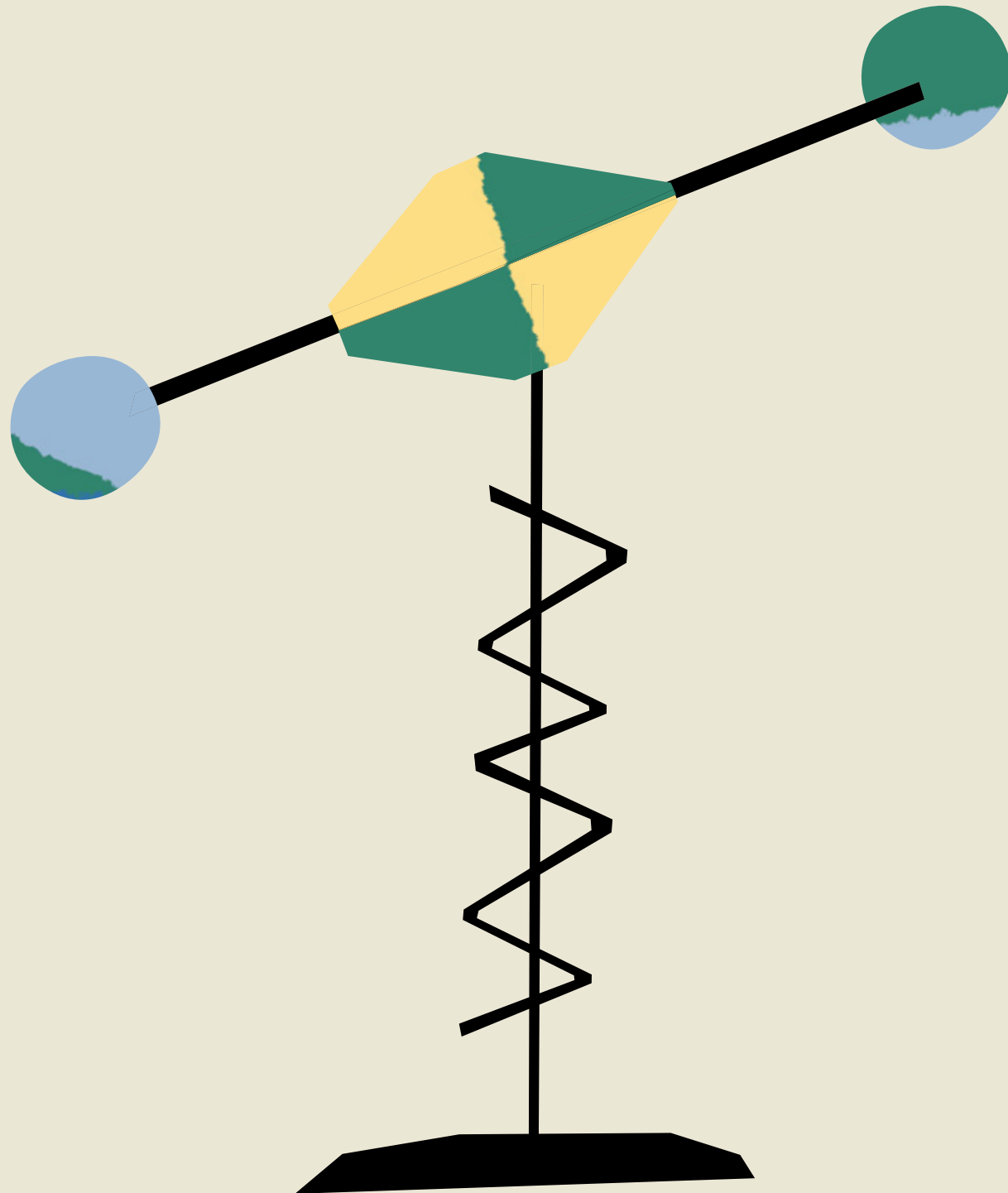
Our School Syllabus

This training program presents a series of sustainability videos which act as educational material for the school community. Primary and secondary education teachers can draw on the available videos to come up with ideas and practical ways of shaping their course. The titles of the themes are: "Sustainable Planet," "A city, an ecosystem," and "The Stavros Niarchos Park travels."

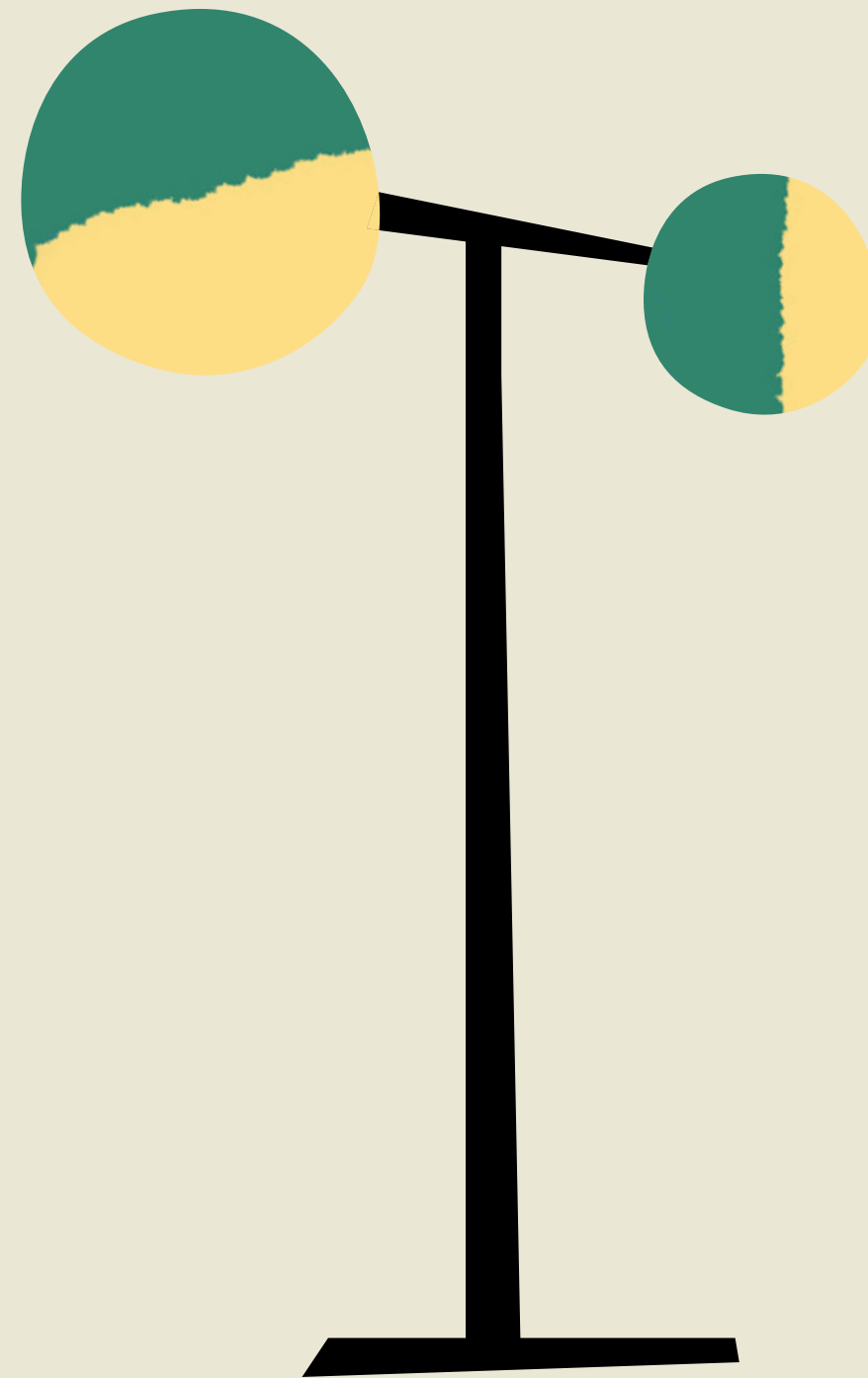
Design your own stamp for World Environment Day

In June 2020, the SNFCC, in cooperation with the Hellenic Post (ELTA), invited children and adults to design their own stamp on the occasion of World Environment Day. All the paintings became true stamps and were sent back to the creators of the works and posted on the website of the SNFCC.

Educational Programs for Children and Adults



Through our program of events and activities over all these years, we have been articulating our philosophy with regard to the dictates of sustainability.



TAKIS: Cosmos in Motion

As part of the monthslong exhibition "Takis: Cosmos in Motion," 46 iconic sculptures of the internationally renowned Greek visual artist Takis were displayed from June to November 2021 in the public spaces of the SNFCC, in collaboration with Takis Foundation - Research Center for the Art and the Sciences. The acclaimed exhibition raised crucial questions in the minds of its thousands of visitors: How often do we think about wind energy, magnetism, and the role of gravity in our daily lives? How does all this form an integral part of an interconnected and ecological world? The lively conversation between art, ecology and technology was at the center of this new take of Takis's work, giving food for thought to both those familiar with the artist's identity and to the new generation becoming acquainted with his works for the first time, through a series of guided tours, workshops and educational programs.



Workshops

Driven by the enormous potential offered by the Stavros Niarchos Park as a field of action, the SNFCC organizes workshops for young and adults, with themes such as: "The Park's Gardeners: A Mediterranean garden on our balcony," "Able Objects: Creative recycling & sculpture," "Talking about the Park's plants: The Park's summer vegetable garden." These are all topics revolving around gardening, recycling, phy-tology, composting, and the interaction between environment and art.

Lectures

In cooperation with leading academics, the SNFCC makes it a point to contribute to the discussion on fundamental interdependencies, such as the relationship of hu-mans to nature through the cultivation of a garden, the perpetual relationship be-tween architecture and the city, and climate change in light of a constantly chang-ing landscape. These thematic axes are presented through lecture cycles organized by the SNFCC with free admission

Cycling Activities

There is no more widespread sustainable means of transport than the bicycle, and the SNFCC, since its inception, has been enriching its educa-tional program with courses, sports competitions and events about the cy-cling culture, the different types of bicycles, riding safety, and the future of the cycling generation.





European Mobility Week

From the first year of its operation, the SNFCC has been supporting the European Mobility Week, with events fostering a more active and ecological lifestyle. The European Mobility Week is an institution established in 2002 by the European Commission in order to promote sustainable mobility and urban development. It takes place every year, between 16 and 22 September. It aims to encourage city residents to choose sustainable modes of transport, such as walking and cycling. Signposted walks around the SNFCC, e-bike trials, workshops for budding engineers and discussions with institutional actors and ordinary citizens around topical issues of sustainable mobility compose the line-up of this annual environmental festival.

Family Backpacks

Through creative activities and games for the entire family, young and old people become familiar with the basic concepts of sustainability, while discovering the SNFCC and Stavros Niarchos Park, thanks to two themed Family Backpacks available at the Reception areas. In particular, the Explorers' Backpack includes the SNFCC Exploration Book, which guides families through various parts of the SNFCC in order to complete 10 imaginative missions. Children observe the textures of the Park's plants, learn about sound water management, measure distances, and also cultivate their imagination through puzzles and games. A medal awaits every child at the SNFCC Reception areas after they complete their mission. With the Researchers' Backpack, the exploration continues at home, with extra activities, a memory game, and a herbarium trump-card game.

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