



TAU Faculty of Social Sciences: Training the world future leaders: The Green Naftali Project

Vision and Principles

- The Naftali building is the residence of the Gershon H. Gordon Faculty of Social Sciences at Tel-Aviv University, a home to thousands of students and hundreds of faculty members
- **Green Naftali: a frontier project, combining inter-disciplinary research, circular economy concepts and advanced entrepreneurial thinking to grow the future world leaders**
- **Operation principle: always move forward, and little by little the vision will come to life**
- Project Goals:
 - Making the building energy-neutral, with zero carbon footprint (no negative environmental influence), water neutral and waste neutral
 - Using the project as an incubator to grow the future leaders in the business and public sectors

Project components

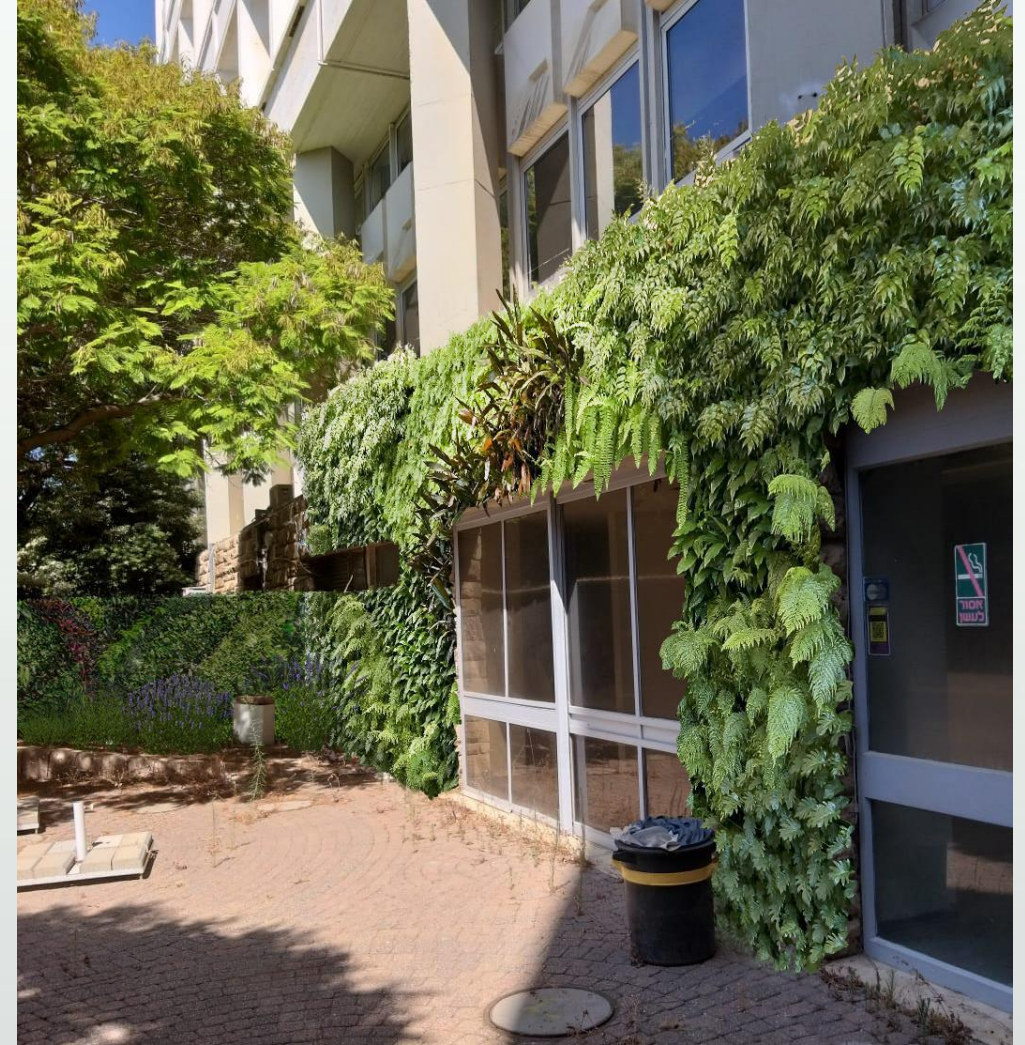
1. **Matanel Garden** – a vertical wall and a ground horizontal garden
2. **Solar Panels** on the roofs of the Naftali building and the Social Sciences library, as well as on the building's southern wall
3. **Water Generation and Recycling lab** – the water will be used for watering the green wall, the garden and the roof top lab, including a **Watergen** water device
4. **Wind Energy** facilities on the roof of the building
5. **Work spaces** at the building's ground floor
6. **Soil - less Agricultural** facility
7. The project to serve as a home-base for the **Social Sciences Excellence Program**

Each of these components will be accompanied by an **input-output monitoring system** and will enable **research** in an array of academic fields: social sciences, environmental engineering, life sciences and environmental studies.

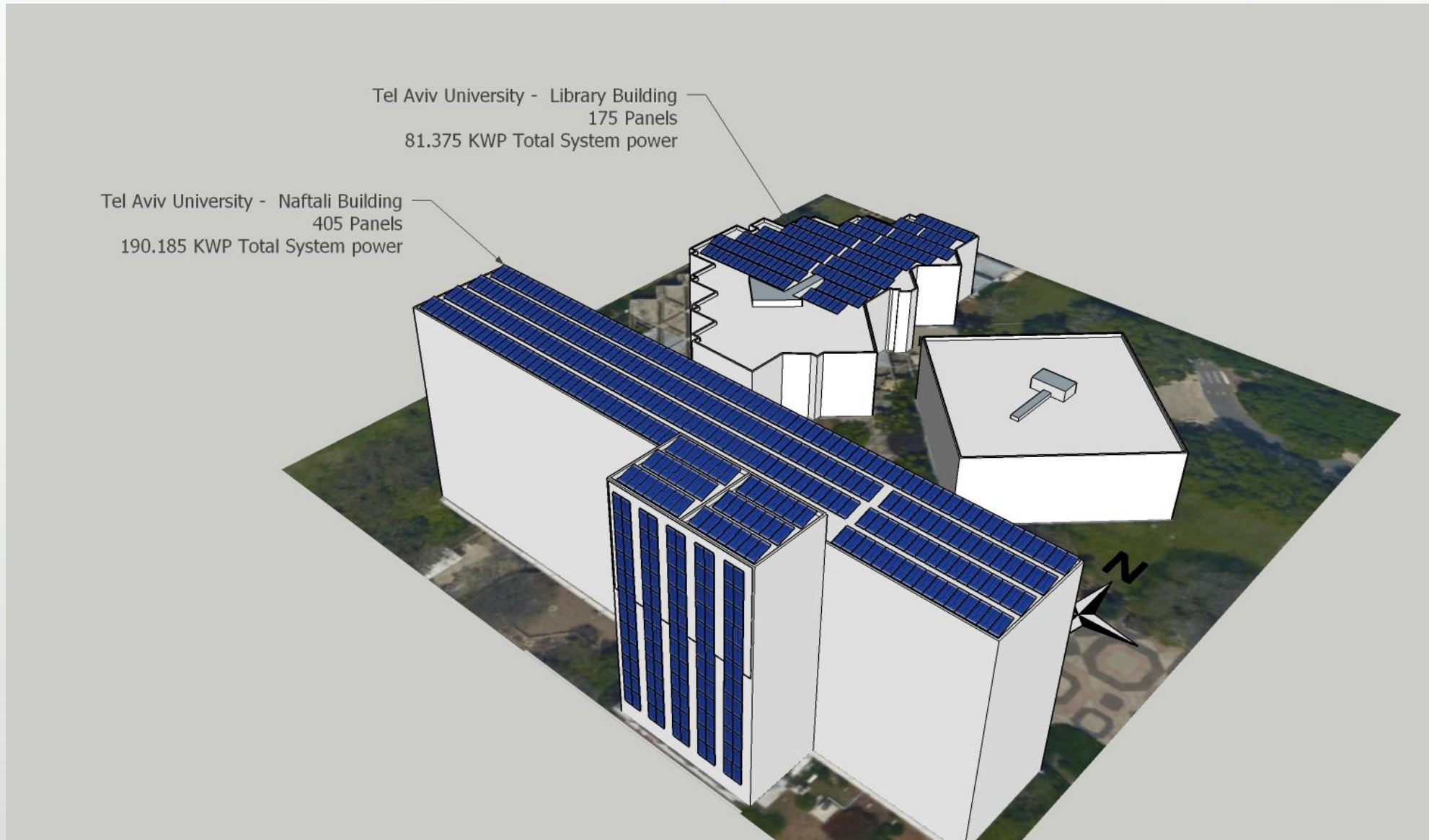
1. Matanel Garden

- The garden is built thanks to a \$250,000 donation from the Matanel Foundation, to be received across five years: 2020-2024
- Physical elements:
 - **Green Wall** – a 250 sq. meters vertical garden, reducing the building's energy consumption; technologies of biological pest control, water recycling and renewable energy will be applied at the garden.
 - **Horizontal garden**, to serve as a learning and research center
- Research elements:
 - Monitoring system which will track the energy and water inputs and outputs, thus assessing the efficiency of the various technologies that will be used in the project, the building's energy consumption and carbon footprint
 - Further research in sustainable development, water and renewable energy
 - Emphasis on inter-disciplinary research: Social Sciences, Engineering, Life Sciences and Environmental Studies.
- Contractor: Vertical Field LTD., start date: February 14th, 2021

1. Matanel Garden



2. Solar Panels



2. Solar Panels

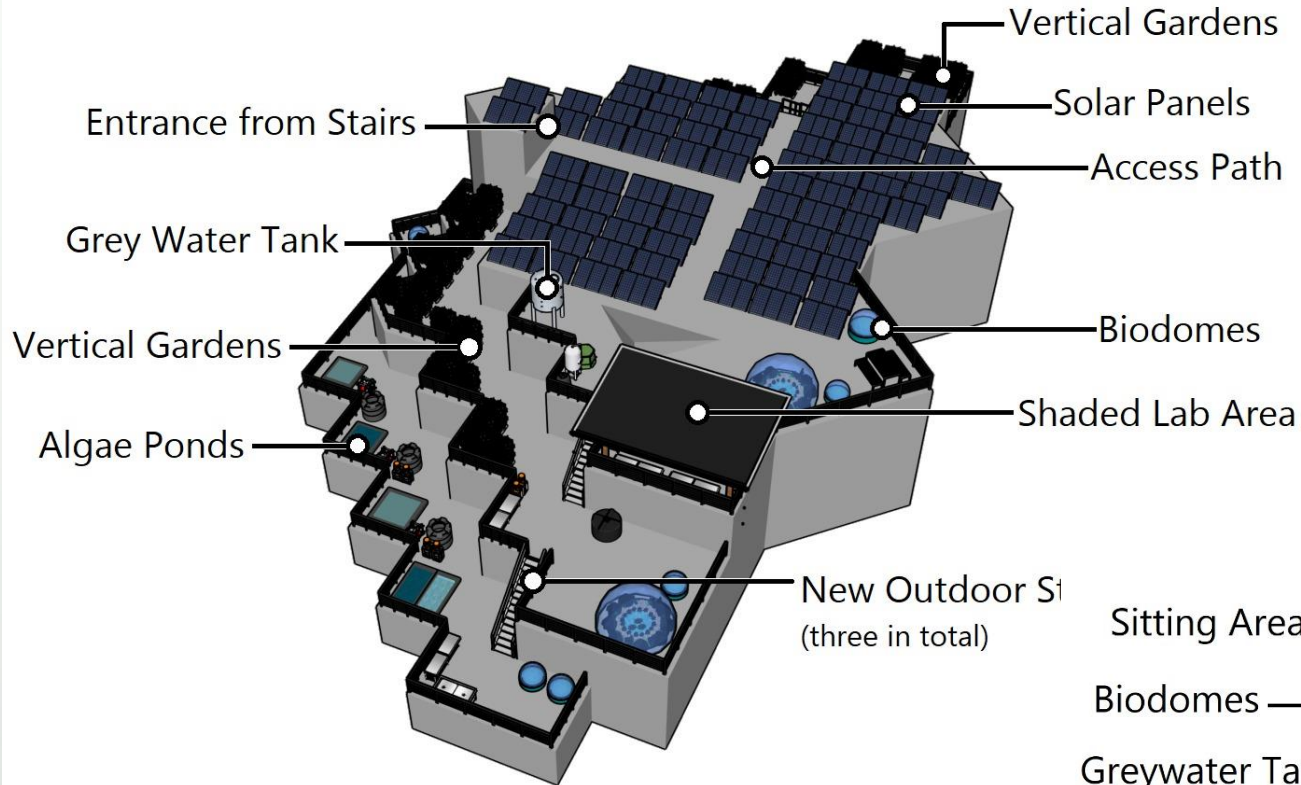
- **Triple impact:** continuing the endeavor of covering all TAU roofs, as well as reducing the building's energy consumption and creating research opportunities for researchers and students
- The panels will be installed on three surfaces: (1) Naftali roof; (2) library roof and (3) Naftali southern wall (the latter should be examined carefully, balancing the significant visibility and the longer ROI)
- **PV is a source of income rather than a cost or an investment**
- **ROI is affected by a regulatory change, expected on March 2021:** a part of the system will enjoy a permanent rate of \$0.13 for the first 100 KWH, while another part (90 KWH) will be offset according to the energy consumption
- Expected ROI:
 - Library roof, current regulation: 5.7 years
 - Library roof, new regulation: 6.1 years
 - Naftali building, current regulation: 5.4 years
 - Naftali building, new regulation: 8.5 years

3-4. The RISE Lab: water, energy, waste and wind lab

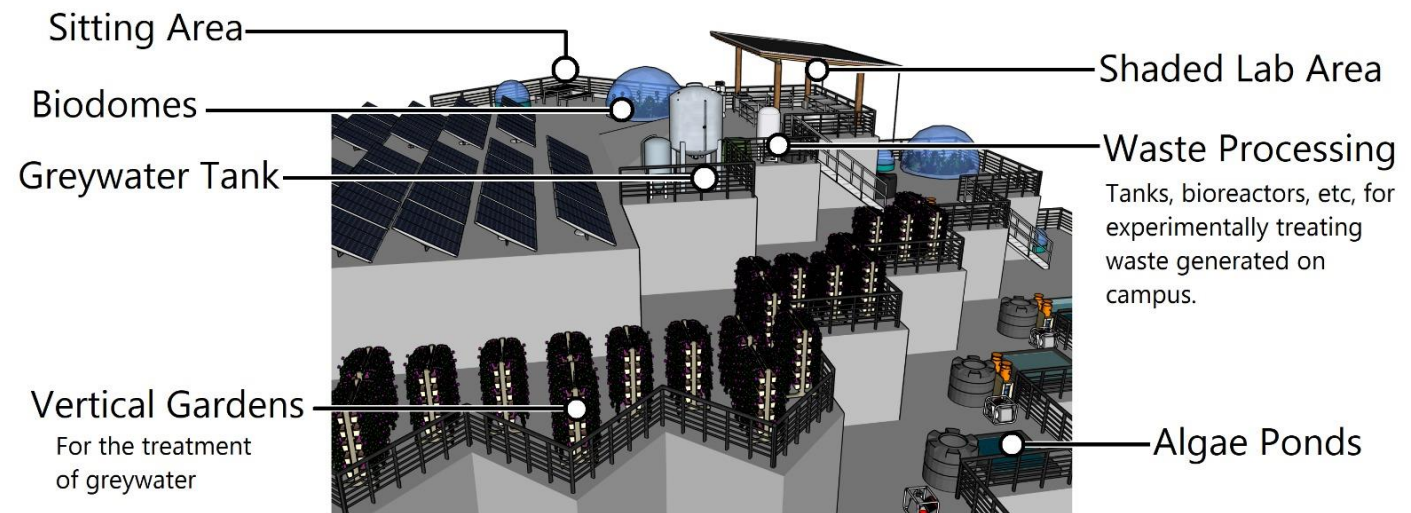
- **Rooftop Innovation for Sustainable Economy** : A non- lab
- The lab resides **in the minds of students and researchers**, its facilities spread across the Naftali and library buildings
- Aim: Training the world's future leaders to aptly cope with the global climate, water, waste and energy challenges in order to create a sustainable future
- Physical components:
 - Watergen water generator (extracting water from the air)
 - Grey and saline water treatment facilities and sensors
 - Green wall, biodome, and planting beds
 - Waste to valuable products
 - Mini wind turbines
 - Closed loop Cafe' – vertical agriculture
- Research component: Inter-disciplinary research center, aimed at exploring innovative technologies - such research will be leveraged to serve as a basis for multiple applied public and private project that will get the students to appreciate how you make things happen in this world

3-4. The RISE Lab: water and wind lab

View from the Naftali Roof



View of Lab from West



5. Closed loop Café – soil-less agriculture



- **Vertical agriculture** within a mini-container at the building garden, serving the staff, faculty, students and visitors
- Crops, energy and zero water cycles will be monitored and technologies developed for research purposes and will be used as supplies for the café'
- Youth at risk will raise the crops and operate the café' according to the "Kayma Farm" model
- These young people will be professionally escorted by the faculty students (Psychology and Social Work)
- Technology development will be integrated and monitored

7. Social Sciences Excellence Program

- Acceptance terms: SAT > 700; matriculation certificate > 110; application letter; support letters; references; examples of academic work and two interview rounds
- Academic track: **from B.A. to Ph.D. in 7 years**; the brightest 10 students every year, to be nurtured as the university's future excellent researchers
- Students encouraged to study at the wide array of academic field the faculty has to offer, as well as optional courses in other faculties; will participate in prestigious graduate programs at TAU and abroad
- The program includes 4 hours a week of joints studies, based on students' lectures and guest lectures by leading researchers (local and international).
- **The Naftali Non-Lab to serve a focal point of the program**, enabling the students to take part in inter-disciplinary research and engage in project from concept to application in the private and public sectors
- Emphasis on academic excellence, inter-disciplinarity, sustainability and the ability to lead social and academic policy
- Program academic team: Full Professors as program heads, Ph.D. academic advisors.

7. Social Sciences Excellence Program - Activities

- Tuition and fellowships: to attract top candidates and allow them to focus on their studies, students will be offered **a full tuition scholarships**, based on a 50% fellowship provided by the Program itself and the remaining 50% expected to come from competitive research grants.
- Annual conference: to bring together experts from diverse, related fields for a valuable exchange of ideas and to present new findings. It will also serve as a means for attracting additional students to the Program.
- Travel grants: Starting from year 3, every year the Program will enable 4 students at the masters or PhD level to participate in and/or present their research at scientific conferences and workshops held at overseas institutions.