SOLAR COOLING

→ When the summer sun is shining, cooling demand is usually peaking. This makes solar thermal energy for air-conditioning a particularly effective solution in a warm climate.

ECONOMIC

SOLID's solar thermal systems are delivered as an energy service; the client only pays for the delivered energy. According to the company, net yearly savings for UWCSEA are approximately $675,000.

ENVIRONMENTAL

This UWCSEA project resulted in avoided CO2 emissions of about 389 tons per year.

THE SOLUTION

! The United World College of South East Asia (UWCSEA), in Singapore, has installed the world's largest solar thermal cooling system.
Solar collectors covering 3,900 m2 were installed atop three sports facilities. These collectors convert light spectrum (shortwave radiation) into heat, harness the heat energy (in the form of hot water) to power the lithium-bromide absorption chiller (cooling machine), and prepare hot water for domestic purposes.
A cooling capacity of at least 1,575 kW is designed to complement the conventional chilling system during daylight hours and help shave peak demand costs significantly. The solar system is estimated to help cool an office space of 20,000 m² over a period of 6 to 8 hours depending on available sunlight.

WHY A SUSTAINIA100 SOLUTION?

? The solar cooling plant, designed and built by the Austrian company SOLID, is a showcase for demonstrating the high potential of large solar thermal systems. In warm climate zones, this solution could greatly reduce energy consumption at times of peak demand.

SINGAPORE

www.solid.at

FARMING WITH LESS WATER

→ Farming accounts for roughly 70% of human water consumption. Using more effective farming technologies, especially in arid regions, farmers can use much less water than they do today.

ECONOMIC

According to Agricel, Film Farming is expected to offer farmers a return on investment between 40% and 70%.

ENVIRONMENTAL

Film Farming decreases water consumption by 50-90%, increases yields by 50% to 57%.

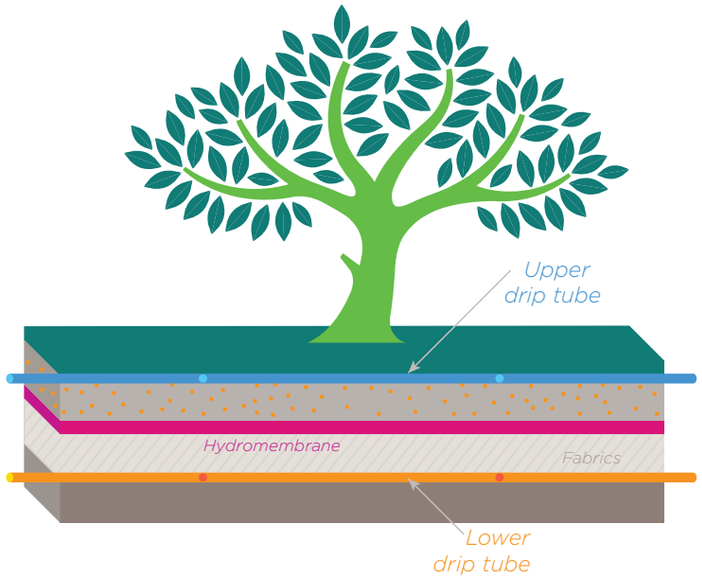
THE SOLUTION

! Film Farming, where plants are cultivated on a hydro-membrane composed of water-soluble polymer and hydrogel, is a revolutionary new way of farming. Film Farming eliminates 90% of the water, and up to 80% of the fertilizer, used in farming. It boosts the production of nutritious and healthy food.
Film Farming systems are easy to set up, and can be installed on any surface, making the product attractive for farmers in remote and arid regions of the world. The cost-effectiveness of this solution will most likely depend on local climatic conditions.

WHY A SUSTAINIA100 SOLUTION?

? By 2030, the demand for water and energy is predicted to rise by 40%; demand for food is expected to rise by 50%. Film Farming represents one solution to a challenge that will be increasingly relevant as climate change effects are felt.

UNITED ARAB EMIRATES



www.agricel.co