



## The Liveability Challenge 2023: Fact Sheet

[The Liveability Challenge](#) (TLC) is an annual global platform that hunts for and accelerates the development of innovative game-changing solutions to urban sustainability challenges of the 21st century in cities in the tropics.

Established in 2018, TLC, has grown to become Asia's largest sustainability solutions platform with a global reach and a track record for helping companies – whose innovative technologies are disrupting existing markets and driving growth— to create a significant positive impact on society and the planet.

With five editions successfully concluded, Eco-Business will come together with Temasek Foundation and its wide ecosystem of partners to deliver the sixth edition in 2023 to accelerate urban liveability transformation and deliver significant impact.

The 2023 edition will feature two tracks — Climate Change and Food & Nutrition — and will see a doubling of the total prize money to S\$2 million, with a grand prize of S\$1 million awarded to the winner in each track.

The food and nutrition track is co-presented by the Singapore Food Agency and seeks disruptive innovations that enable a circular urban agriculture or aquaculture system, as well as those that advance alternative protein industries.

TLC welcomes all projects at or above **Technology Readiness Level (TLR) 6** and have already achieved **proof-of-concept**. While teams may be based anywhere in the world, the proposed project must be applicable to Singapore and cities along the tropical belt.

Nominations will open in the first week of November 2022 and close on 31 March 2023. Two steering committees on climate and food will convene to select the finalists, who will pitch their solutions to judges and investors at The Liveability Challenge Grand Finale on 8 June 2023.

For more information, visit <https://www.theliveabilitychallenge.org>

### **Key dates**

<b>4 November 2022</b>	Launch of The Liveability Challenge 2023; Open for submissions
31 March 2023	Closing date for submissions
May 2023	Unveiling of finalists
8 June 2023	The Liveability Challenge 2023 Grand Finale at Ecosperity

## What's at stake

Finalists in The Liveability Challenge 2023 could secure these prizes:

- The Liveability Challenge Grand Prizes: S\$1 million in grant funding from Temasek Foundation for Climate Change and Food & Nutrition each
- A S\$100,000 investment from PlanetRise
- A S\$100,000 investment from Rumah Foundation
- A S\$100,000 investment from Quest Ventures
- A S\$100,000 investment from TRIREC

## Key themes

The sixth edition of The Liveability Challenge features two main themes:

### 1. Climate Change

The Liveability Challenge is looking for disruptive innovations that can decarbonise energy generation and industries, as well as capture and utilise carbon to create scalable products for global markets. We also want solutions that address ocean challenges, and innovative models that restore and regenerate coastal and marine ecosystems in Southeast Asia.

### 2. Food & Nutrition

The Liveability Challenge is looking for disruptive innovations that can establish a circular urban agriculture or aquaculture system, or alternative protein system. We are seeking innovative and breakthrough technological solutions to maximise production efficiency and minimise resource requirements.

Climate Change	Food & Nutrition
<p>The effects of climate change grow more visible with each passing day. With the world population set to hit a staggering 8 billion by November 2022 and rapid urbanisation gripping the Asian region, the decarbonisation of our economies and cities has become more urgent than ever.</p> <p>As the world's largest carbon sink, climate regulator and provider of key ecosystem services, our oceans have been taking the brunt of climate change and are now at a dangerous tipping point. The continual absorption of excess energy, heat and waste from human activities has caused unparalleled cascading effects including sea-level</p>	<p>Food security has been a rising priority for countries all over the world, with increasing constraints on land, water and energy posing a threat to food supply. This is further complicated with climate change and global supply chain disruptions.</p> <p>This year's challenge aims to seek out innovations that enable a circular <b>urban agriculture or aquaculture system, as well as innovations that advance alternative protein industries</b>. We are seeking game-changing and breakthrough technological solutions that maximise production efficiency and minimise resource requirements of a variety of food types, including (e.g Asian leafy</p>

<p>rise, changing weather patterns, ocean acidification and pollution.</p> <p>It has become more urgent than ever to take concrete steps to restore and maintain the vitality of our environment. Besides technology-based solutions that <b>decarbonise our economies</b>, solutions that restore and regenerate <b>ocean ecosystems</b> are also important to help us adapt to changing climates.</p> <p>This year, TLC is looking to build on its efforts in enabling solutions that <b>remove carbon emissions at scale</b>, including revolutionary technology-based <b>carbon capture, utilisation and storage solutions; low-carbon solutions</b> or solutions that <b>decarbonises energy, urban infrastructure, and transport and logistics</b> systems.</p> <p>TLC is also looking to support the scaling of <b>viable solutions for ocean ecosystems</b> that include <b>restorative and regenerative</b> efforts for <b>coastal and marine ecosystems</b>.</p>	<p>vegetables, fruited crops, tropical marine fish species, or alternative proteins). The proposed solution should be modular and scaleable for ease of deployment in an urban setting.</p>
<p><u>Decarbonisation-related solutions should:</u></p> <ul style="list-style-type: none"> <li>• Significantly reduce the carbon emissions produced by industries and buildings (e.g. cooling systems); and/or</li> <li>• Effectively capture, and convert carbon emissions into useful products (e.g. building materials, reclamation sand or synthetic fuels)</li> <li>• Be carbon negative in the overall lifecycle and have zero/minimal externalities</li> <li>• Be technology-based solutions (e.g. physical, chemical)</li> <li>• Be commercially viable and scalable</li> <li>• Conduct the pilot in Singapore</li> </ul> <p><u>Ocean-related solutions should:</u></p> <ul style="list-style-type: none"> <li>• Create value from the conservation or restoration of coastal and marine ecosystems in Southeast Asia (e.g. seagrasses, mangroves, seaweed, kelp, and salt marshes) through sustainable business models and the generation of carbon credits; and/or</li> </ul>	<p><u>Submitted solutions should:</u></p> <ul style="list-style-type: none"> <li>• Enable Singapore food producers to achieve best-in-class productivity while reducing energy needs and greenhouse gas emissions by at least 30% (e.g. renewable and clean energy resources, energy efficiency, etc).</li> <li>• Improve circularity through waste to resource streams (e.g. waste-to-energy, waste-to-feed, recycling, waste valorisation etc)</li> <li>• Be cost effective and benchmark against existing commercial solutions (e.g. capex and opex)</li> <li>• Be commercially viable and scaleable in a dense urban environment</li> <li>• Conduct a pilot in Singapore</li> </ul>

<ul style="list-style-type: none"> <li>• Improve measurement, reporting, and verification of environmental, social, and economic impacts (e.g. carbon sequestration, co-benefits); and/or</li> <li>• Prevent and reduce pollution in coastal and marine ecosystems (e.g. oil spills, plastic, runoffs)</li> <li>• Emphasise affordability, accessibility, reliability of the technology used as well as the potential for field calibration and maintenance in remote locations</li> <li>• Describe the full observational, experimental, modelling expertise and capacity</li> <li>• Be commercially viable and scalable</li> <li>• Conduct the pilot in Southeast Asia</li> </ul>	
---	--

The call for submissions under these three themes will be launched on 4 November 2022 on our microsite <https://www.theliveabilitychallenge.org>

### **Track record**

The Liveability Challenge was inaugurated in 2018. Its success in raising awareness about the investment opportunities in solutions to build sustainable cities in the tropics continues to attract more partners and participants from around the world.

#### 2018

**Themes:** Waste Management; Sustainable Cooling

**Partners:** 13 partners, including investors, start-ups, business associations and media

**Submissions:** More than 200 applications from 34 countries

**Prizes awarded:** S\$980,000 grand prize for the winner

**Winner:** RWDC Industries is the developer of Solon™, a type of PHA (or polyhydroxylalkanoate). The product is a certified biodegradable biopolymer that seeks to replace single-use plastics. The solution has been introduced in Singapore as a drinking straw. Since winning the TLC 2018 challenge, the company has also raised \$200 million in follow-on funding.

#### 2019

**Themes:** Energy; Circular Economy

**Partners:** 35 partners, including investors, start-ups, business associations and media

**Submissions:** Over 300 applications from over 50 countries

**Prizes awarded:** Over \$1 million worth of prizes were given out to the finalists, including S\$1 million in funding from Temasek Foundation, mentorship and fundraising opportunities from BANSEA, Circular Economy Club, FundedHere, Golmpact and GoMassive.

**Winner:** Sophie's Kitchen, and its solution to produce low-cost, food-grade protein flour from microalgae in urban environments. Sophie's has since gone on to win notable global challenges such as 2021 Masschallenge Switzerland, and Fi Global Startup Innovation Challenge.

## 2020

**Themes:** Urban Food Production; Circular Packaging; Decarbonisation

**Partners:** 54 partners, including investors, start-ups, business associations and media

**Submissions:** Over 400 applications over 60 countries

**Prizes awarded:** Over \$1 million worth of prizes were given out to the finalists, including S\$1 million in funding from Temasek Foundation, a \$100,000 investment from PlanetRise, mentorship and venture-building opportunities from TXG, The Circularity Studio, and Closed Loop Partners.

**Winner:** TurtleTree Labs is the first biotech company in the world with the ability to create milk in a sustainable manner, without compromising on nutrition, taste and quality. Using proprietary cell-based methods, this can achieve a 98% carbon footprint reduction compared to milk produced by traditional dairy farming. After winning the TLC 2020 challenge, the company has raised an additional \$40 million in funding.

## 2021

**Themes:** Decarbonisation; Re-Imagining Resources

**Partners:** 77 partners, including investors, accelerators and government-affiliated organisations

**Submissions:** Over 400 applications from 60 countries

**Prizes awarded:** S\$1 million in funding from Temasek Foundation, S\$250k investments by venture capital partners, mentorship programmes with Microsoft and Solar Impulse Foundation, among other venture-building opportunities.

**Winner:** SeaChange Inc, and its technology that converts dissolved CO<sub>2</sub> in sea water into stable solid carbonates, which can be used to make construction materials such as cement and concrete. The company is now collaborating with PUB, Singapore's national water agency, to develop the world's first carbon extracting desalination plant.

## 2022

**Themes:** Decarbonisation; Food & Agribusiness, and Nature-based solutions.

**Partners:** 74 partners, including investors, accelerators, and government-affiliated organisations

**Submissions:** Over 400 applications from over 60 countries

**Prizes awarded:** S\$1 million in funding from Temasek Foundation, S\$500k investments by venture capital partners PlanetRise, Amasia, Silverstrand, Purpose Venture Capital and Quest Ventures.

**Winner:** Fairventures Social Forestry, and its scalable social forestry model that incorporates blended finance

### **Behind the curtain:**

**TEMASEK  
FOUNDATION**

#### **About Temasek Foundation**

Temasek Foundation supports a diverse range of programmes that uplift lives and communities in Singapore and beyond. Collectively, our programmes strengthen social resilience, foster international exchange, enhance regional capabilities, and advance science for a sustainable world. Temasek Foundation's programmes, made possible through philanthropic endowments gifted by Temasek, strive towards achieving positive outcomes for individuals and communities now, and

for generations to come. For more information, visit [www.temasekfoundation.org.sg](http://www.temasekfoundation.org.sg).



#### **About Singapore Food Agency**

The Singapore Food Agency (SFA) was formed as a statutory board under the Ministry of the Environment and Water Resources (MEWR) on 1 April 2019 to oversee food safety and food security from farm-to-fork. MEWR has been renamed as the Ministry of Sustainability and the Environment (MSE). The SFA brings together food-related functions carried out by the former Agri-Food & Veterinary Authority of Singapore, the National Environment Agency and the Health Sciences Authority. For more information, visit [www.sfa.gov.sg](http://www.sfa.gov.sg)



#### **About Eco-Business**

Established in 2009, Eco-Business is Asia Pacific's leading media organisation on sustainable development. Its independent journalism unit publishes high-quality, trusted news and views in multimedia formats on business and policy developments around the world with a sustainability and ESG-focused lens. Eco-Business is headquartered in Singapore, with a presence in Beijing, Manila, Kuala Lumpur, Bangalore, Zurich, and New York, and correspondents in major cities across the world. Visit [www.eco-business.com](http://www.eco-business.com)

**END**