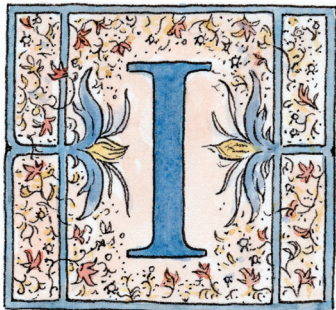


WENDY SINGER

# Israel Is a Climate Leader



ISRAEL HAS COME a long way since Jaffa oranges were the pride of the nation. Today it is known for “deep tech” such as computer chips and cybersecurity. Some 600 research and development centers of global companies and over 7,000 start-ups dot the urban landscapes. What is less well known is that Israel is punching way above its weight in a field that is particularly urgent today: climate technology.

In today’s world, fraught with extreme weather conditions and plagued by drought and fire alike, the ingenuity needed to meet the climate crisis is less about solar panels and more about a range of broad-scale solutions that Israel is churning out at a steady clip. Climate tech refers to technologies explicitly focused on reducing greenhouse-gas (GHG) emissions. It has emerged as an especially hot

space, mainly due to the net-zero carbon goals that governments and companies have committed to reach by 2030.



The roots of Israeli climate tech were evident in the early years of statehood, when its agricultural innovation was born of necessity. Israel was a poor country. The early pioneers were draining swamps and battling malaria outbreaks while facing large waves of immigration, food-security challenges, even rationing. Its gross domestic product per capita was \$1,000, similar to that of developing countries today. One would hardly expect that this tiny country, with terrible soil and severe water scarcity, would become a hotbed of agricultural innovation. The brutal necessities of the '50s, along with wise investment in R & D, gave rise to drip irrigation and precision agriculture. (This part of Israel's story is well documented in a publication by the Tony Blair Institute and Volcani International Partnerships, "How Israel Became a World Leader in Agriculture and Water.")

Today, Israel's entrepreneurs, many of whom graduate from the IDF's elite tech units, use the same core skills to innovate in sectors such as food tech, agriculture tech, and climate tech. There are currently some 880 innovative companies tackling one angle or another in the climate space. C-level execs from large multinationals are showing up in Israel looking for climate solutions to meet their own sustainability goals, ranging from alternative proteins to weather monitoring and electric transportation.

Since 2019, Israeli climate-tech companies have attracted \$8 billion in investment, of which \$2.9 billion was invested in 2022, according to data from Start-Up Nation Central, an NGO I helped found and lead from 2013 to 2022. Israel's total share of global investment in climate tech is 2 percent — which may not sound like

much, until you realize it's 20 times the country's share of global population.

There is a highly interconnected ecosystem to support this climate-tech sector. This includes globally ranked academic institutions that connect with industry: The Technion launched a center for the study of alternative proteins, while The Hebrew University's Asper-HUJI Innovate hosts the OPEN Accelerator, helping to found climate-tech start-ups. Then there is a highly focused government role: The Israel Innovation Authority is allocating 3 billion shekels (\$820 million), over four years, to climate-tech innovation. Large corporations, ranging from Schneider Electric to Nestlé to Uber, play an additional important role, sending top executives to Israel to engage with food-tech and climate-tech start-ups. Finally, there is a tight-knit community of gritty, problem-solving entrepreneurs. Community events and start-up competitions to bring tech solutions to climate challenges have become routine.

Having watched this story unfold in recent years, I am struck by the ingenuity that the climate-tech sector brings to some of the toughest climate-related areas. Food systems are a prime example, with a highly robust alternative-protein sector that is second only to that of the United States in securing global investments. These Israeli start-ups attracted \$454 million in investments last year, which is 15 percent of the capital that was raised for the sector worldwide. "It is clear—we can't reach net-zero emissions and create resilient food systems without shifting away from industrial animal farming," says Nir Goldstein, head of Global Food Institute Israel. "Alternative proteins are the only scalable solution, and the Israeli ecosystem is paving the way."

The alternative-protein sector includes cow-free dairy protein made through precision fermentation; plant-based substitutes for

meat, dairy, and egg; and cultivated meat and seafood made from cells. All told, there are about 57 alternative-protein companies.

Other examples include the “circular economy,” in which one company uses unsorted household waste to create recyclable thermo-plastic materials. Another one takes unused wood waste to create high-end, competitive wood products and materials. Carbon capture is yet another example, which entails removing carbon dioxide from the air to reduce GHG emissions. One Israeli company is taking a radical approach and removing CO<sub>2</sub> from the world’s oceans.

The story is not all milk and honey, so to speak. Israel’s climate-tech companies aiming to pierce global markets face some real hurdles. For example, very few Israel-based investment funds are climate-focused. So access to capital is challenging, especially for early-stage start-ups.

Access to global markets isn’t close to reaching its potential, as there are limited multinationals based in Israel that are mandated to engage with the local climate-tech sector. According to Yael Weisz Zilberman, head of Start-Up Nation Central’s Climate Sector, “engaging global corporates to explore climate solutions in Israel’s ecosystem may be the greatest impetus for encouraging more entrepreneurs and more VCs to choose ClimateTech.”

Israel’s regulatory landscape is improving, but many barriers remain for start-ups in the climate-tech and food-tech sectors, especially relating to the pace of regulatory approvals. As a result, start-ups that are ready to scale realize quickly that they need to set up their production facilities overseas. The regulatory landscape has some way to go to become more confident, faster, and in step with the regulatory scene in other parts of the world.

Friends of Israel can engage in tangible ways to support Israel’s innovation role in the global climate battle. Jaffa oranges are still part of Israel’s brand. But 75 years in, Israel is proving it can do so

much more to turn its own past victories over a harsh climate into victories for the rest of the planet, too. \*

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