



The Goldman Sonnenfeldt School of Sustainability and Climate Change



אוניברסיטת בן-גוריון בנגב
Ben-Gurion University of the Negev



Global climate change is a threat to life on the planet as we know it

Humankind is facing the consequences of a global climate crisis – the melting of the polar ice caps, rising ocean levels, increasing daily temperatures, and ever more frequent extreme weather events. If we continue on this path, we can expect intensifying drought, floods, disease, and famine to impact the lives of a growing number of people around the world. Global climate change is a threat to life on the planet as we know it.

Climate change, sustainability, and the BGU mission

The School leverages our experience living and thriving in the desert into scalable solutions for people everywhere

For over fifty years, Ben-Gurion University of the Negev (BGU) has pioneered a vision for higher education that combines academic excellence with a commitment to broad access, and the pursuit of innovation and entrepreneurship with a commitment to social and environmental impact.

In 2021, in response to the world's growing environmental crises, BGU established Israel's first school focusing on sustainability and climate change: The inter-faculty Goldman Sonnenfeldt School of Sustainability and Climate Change (GS SCCC) leverages our experience living and thriving in the desert into scalable solutions for people everywhere.

Recognizing both the immediacy of the climate crisis and its deeply interconnected socio-ecological challenges, the School adopts a trans-disciplinary, problem-centric approach that considers sustainability's full complexity. Through research, education, partnerships, and community outreach, we harness the unique expertise accumulated across the University to address issues such as water scarcity, food insecurity, sustainable energy, biodiversity loss, and the inequitable division of resources in integrated and effective ways.





Transforming the research and study of climate change and sustainability

Developing viable solutions to global climate change requires wide-scale observation and the combination of different fields of study and research. It requires collaboration between experts and the ability to think outside the box in order to innovate and translate local approaches into global solutions.

The School actively encourages cross-unit collaboration to generate solutions to the most pressing needs of our generation

The multidisciplinary Goldman Sonnenfeldt School of Sustainability and Climate Change leverages knowledge and expertise from over 150 research labs and multiple research centers and departments across our three campuses to further facilitate the integration of researchers and research programs. It actively encourages cross-unit collaboration to generate impactful solutions to the most pressing need of our generation.

The School strives to become the world's leading center for research in desert tech, or technologies that enable sustainable living in dry, hot ecosystems and arid climates, among other things, by encouraging the commercialization of BGU's sustainability-related technologies. It also aims to facilitate collaborations between laboratory researchers and social scientists in the development of integrated applicable initiatives for combatting the effects of climate change.



Real solutions to real world problems



WATER

Water shortages cause drought and famine, as well as political instability. BGU researchers conduct interdisciplinary research to find real solutions for the problem of deteriorating water resources, with a focus on sustainable water resource management. They also leverage new technologies to provide water for drinking and for agricultural and industrial use, through advances in desalination and water reclamation technologies.

FOOD SECURITY

With increasing pressure on arable land and continued population growth, ever more of the planet's inhabitants live in resource-scarce environments. Food security for future generations depends on developing sustainable drylands agriculture. Researchers at BGU have been adapting various food crops to the desert climate for decades, as well as pioneering the use of brackish water in growing a range of crops. Notable recent developments include revolutionizing viticulture with vineyards in the heart of the desert and zero discharge systems for fish farming to support desert aquaculture.



WARMING CLIMATES

As global temperatures rise, increasing numbers of people regularly experience high temperatures. Researchers across the University address different challenges posed by global warming, for example by developing advanced building techniques and materials suitable for the desert heat and sun.



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PUBLIC HEALTH

The Faculty of Health Sciences at BGU has focused on patients and their environment since its inception. Critical insights into population genetics and the impact of heat and dust on human health have improved patient treatment, fueled research, and informed public health policy in Israel and around the world.



CLEAN ENERGY

Humanity must reduce its dependence on fossil fuels and develop new sources of clean energy if we are to avert irreversible climate change. Researchers across the University study multiple technologies for alternative fuels at different scales, from atoms to grid. Research on solar energy, biofuels, and novel nano-materials has led to developments which will reduce dependence on fossil fuels. Interdisciplinary research on grids and smart cities, supported by BGU's strengths in AI and machine learning, is already yielding savings in energy consumption.



PUBLIC POLICY AND SOCIAL JUSTICE

Sustainable development, especially in resource scarce environments, is impossible without the equitable sharing of those resources. Our faculty members actively contribute to national policies on range of issues linked to sustainability and the active collaborations of social scientists with laboratory researchers ensures that the social impact of our research does not go unrecognized or unheeded. BGU has proven experience in fostering social leadership and entrepreneurship, and in including the community, nearby and further afield.



Educating the next generation of sustainability experts

The School offers a range of study tracks for graduate and undergraduate students, Israeli and international, based on an interdisciplinary and integrative approach. It provides students with a wide range of tools for the development and advancement of practical and sustainable solutions to global climate change, within an international research framework, integrating multiple perspectives from leading fields of study at BGU.

The School prepares graduates to take up leadership positions in the scientific, planning, policy, management, advocacy, and economic fields of sustainability and environmental protection, and increases the number of professionals who are qualified to work in these fields in Israel and abroad.



Providing graduates with tools for success in facing 21st century challenges

ACADEMIC FACULTIES AND DEPARTMENTS ASSOCIATED WITH THE SCHOOL



Faculty of Engineering Sciences
 Department of Civil and Environmental Engineering / Department of Energy Engineering / Department of Materials Engineering / Department of Mechanical Engineering / Department of Industrial Engineering and Management



Faculty of Natural Sciences
 Department of Chemistry / Department of Computer Science / Department of Earth and Environmental Sciences / Department of Life Sciences / Department of Mathematics / Department of Physics



Faculty of Humanities and Social Sciences
 Department of Economics / Department of Education / Department of Geography and Environmental Development / Department of Politics and Government / Department of Sociology and Anthropology



Guilford-Glazer Faculty of Business and Management
 Department of Hotel and Tourism Management / Department of Management / Department of Public Policy



Jacob Blaustein Institutes for Desert Research
 Albert Katz International School for Desert Studies / French Associates Institute for Agriculture and Biotechnology of Drylands / Swiss Institute for Dryland Environmental and Energy Research / Zuckerberg Institute for Water Research



Faculty of Health Sciences
 Department of Health Policy and Management / Recanati School for Community Health Professions / School of Public Health



Extending local and global impact through outreach and partnerships

BGU has a long history of successful partnerships with industry, government, and the community to produce real-time solutions to real problems

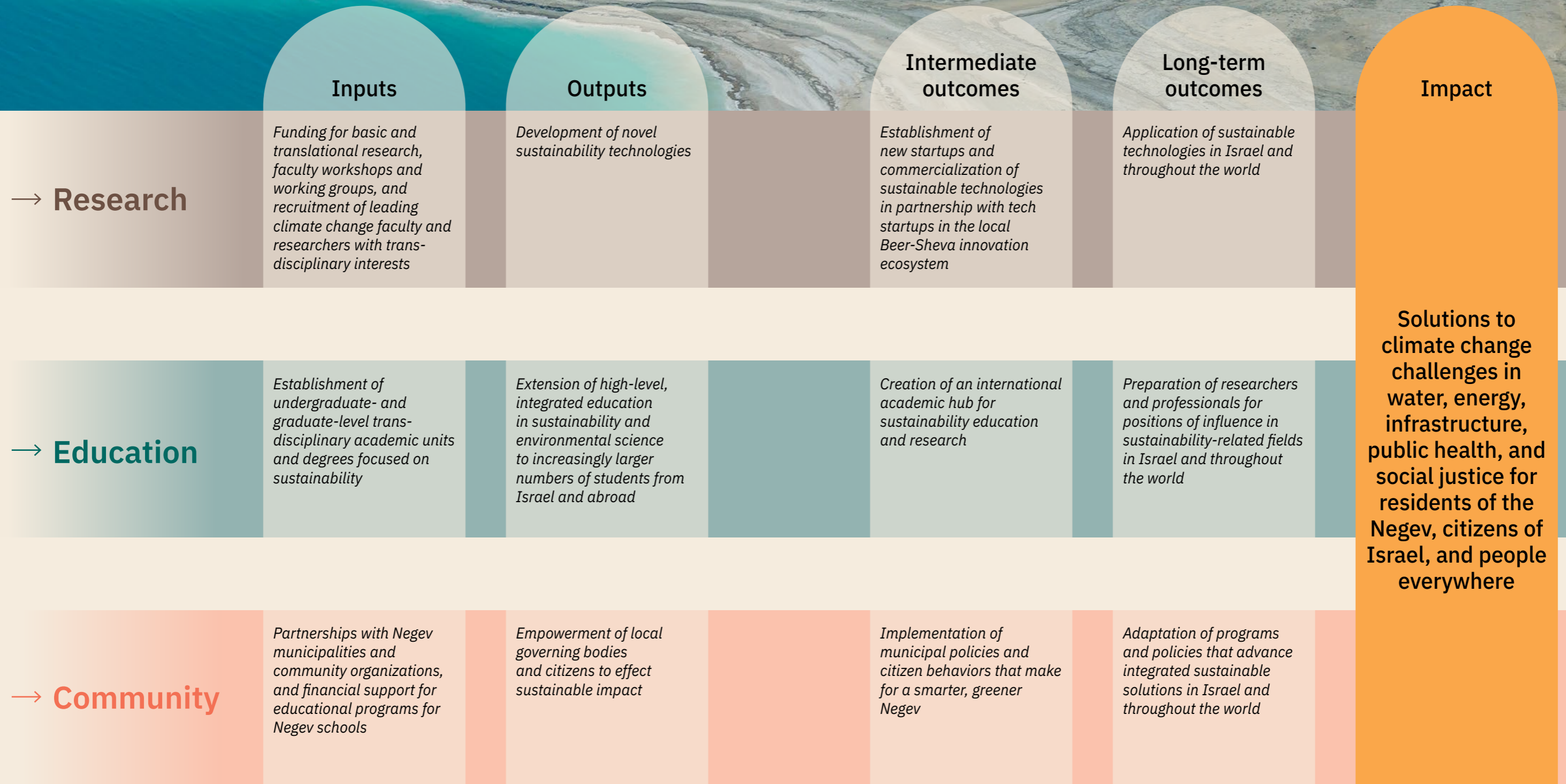
BGU has a long history of successful partnerships with industry, government, and the community to produce real-time solutions to real problems. Our entrepreneurial spirit and a well-developed ecosystem of innovation, including the Beer-Sheva-BGU Innovation District, support a unique collaborative environment where local and global businesses transform world-class academic research into real-world applications. It is not surprising that Israel remains the only country in the world that has resolved its chronic water shortages, is successfully countering the effects of desertification, and increasing the productivity of its drylands.

In addition to facilitating the dissemination of viable solutions to the climate crisis, the Goldman Sonnenfeldt School of Sustainability and Climate Change fosters and supports the development of evidence-based policy proposals and initiatives for both present and future environmental challenges, and empowers Negev municipalities in adopting and managing sustainable practices. Through our partnerships across all sectors of society, the School also promotes adherence to such policies and practices, and plays a key role in setting sustainability goals at the national and international levels.

Community outreach is a founding ethos at BGU. We share our knowledge and expertise in desert ecology, clean energy and much more with the Negev's communities through educational enrichment programs in schools and workshops and lectures aimed at the general public. We engage with the community through collaborative projects with non-profits on local and national initiatives ranging from resource management and allocation to recycling and health, thereby empowering citizens in shaping a more equitable, just, and sustainable Negev.

A theory of change

The establishment and growth of the Goldman Sonnenfeldt School of Sustainability and Climate Change is a step-by-step, strategic process, leading to results at increasingly larger scale – in the Negev, across Israel, and throughout the world.





BGU welcomes partnerships, collaborations, and support in our quest to make an impact

At Ben-Gurion University of the Negev, finding solutions to the impacts of climate change is a priority out of necessity. We have spent five decades learning how to thrive in the desert through problem-based research. Our partnerships make it possible for our experience and knowledge to be translated into real-world solutions to the critical problems presented by climate change today.

WE INVITE YOU TO JOIN US AND HELP US SHAPE A MORE SUSTAINABLE FUTURE FOR ALL

CONTACT US AT: [SSCC@BGU.AC.IL](mailto:sscc@bgu.ac.il)



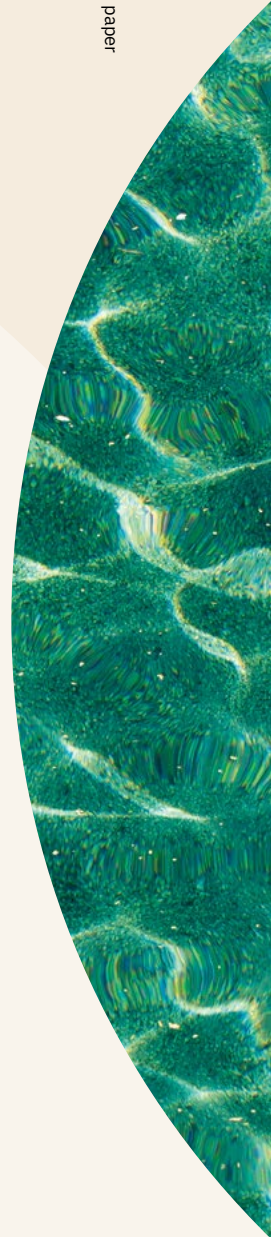
ABOUT BEN-GURION UNIVERSITY OF THE NEGEV

Ben-Gurion University of the Negev (BGU), the fastest growing research university in Israel, is a central force for innovation, inclusion, and diversity. At the heart of a thriving innovation district, BGU attracts leading multinational corporations to leverage its expertise in desert-tech, cyber-tech and health-tech for innovative R&D.

Inspired by our location in the desert and our belief that a culture of collaboration and bridging disciplines is critical to the success of research and scholarship, we aim to discover, to create, and to develop solutions to dynamic challenges, and to push beyond the boundaries of the known.

AT A GLANCE:

20,000+ students • 800+ senior faculty • 3 campuses, in Beer-Sheva, Sde Boker, and Eilat • 6 faculties: humanities & social sciences, health sciences, engineering sciences, natural sciences, business & management, and desert research • 12 schools • 6 affiliated medical facilities.



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