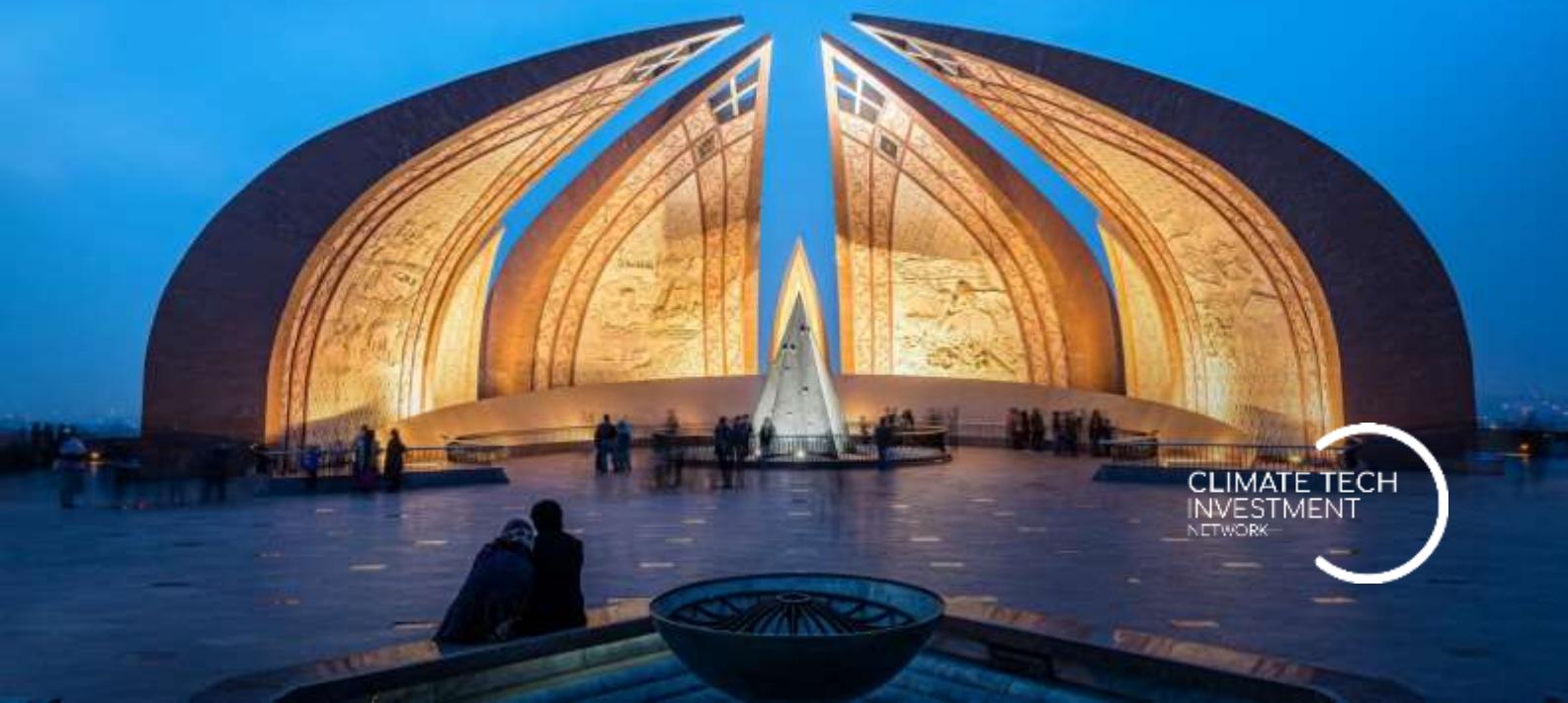


Pakistan

Climate Tech Landscape Research Brief
Country Snapshot



CLIMATE TECH
INVESTMENT
NETWORK





Climate Tech Investment Network (CTIN) provides investment syndication support services to local angel investment networks through a deal-flow centric platform to catalyze early-stage capital into climate tech startups in South and Southeast Asia.

This Research brief was made in collaboration with



Our Ecosystem Partners



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1 | COUNTRY OVERVIEW

High Level Economic Stats

GDP:

263.687 Bn
(2020)

(Source: World Bank)

GDP per Capita:

\$1193.733
(2020)

(Source: World Bank)

Capital Controls:

- Bilateral Investment and Taxation treaties: **49 out of 190 countries** (Source: US Department of State)

- World Bank Ease of Doing Business Ranking: **108 out of 190 countries**

- The removal of minimum capital requirement for outside investors is a positive development, but the process to invest in and repatriate profits from Pakistan is still opaque and hard to navigate. An individual investor can hold shares in a company that has been legally incorporated in Pakistan (don't have to be an accredited investor). However, any foreign investor or investment firm, requires approval from Pakistan's Ministry of Interior prior to becoming a shareholder or director in a company registered in Pakistan.

- Also, for investors, the State Bank of Pakistan marks the investment capital as repatriable or non-repatriable, and monitors whether returns can leave or stay in the country. Foreign investors may wait for Ministry of Interior approval (which takes on an average 6 months) prior to applying for a Proceeds Realization Certificate (PRC) or at least prior to remitting capital into Pakistan

- There is room for more quality angel investors at the pre-seed and seed-level stages in order to address increasing demand from startups and for there to be a smooth capital curve^{i,ii}

Inflation, consumer prices:

9.74% (2020) (Source: World Bank)

Sovereign Risk:

B3 (Source: Moody's)

B- (Source: S&P)

FDI Inflows (BoP, current in US\$):

0.803% (2019) (Source: World Bank)

Foreign Exchange Resilience (against US\$):

6.71% CAGR over 10 years

Geographic and Demographic Stats

Population:

238.18 million

(Source: CIA World Factbook)

Youth% (15-24 years):

19.3%

(Source: CIA World Factbook)

Major Cities/Hubs:

Karachi, Lahore, Faisalabad, Rawalpindi, Gujranwala, Islamabad (capital)

(Source: CIA World Factbook)

Youth Unemployment (15-24 years):

7.8%, Ranking, 149 out of 190

(Source: CIA World Factbook)

Languages Spoken:

Punjabi, Sindhi, Saraiki (a Punjabi variant) 10%, Pashto (alternate name, Pashtu) 8%, Urdu (official) 8%, Balochi 3%, English (official)

(Source: CIA World Factbook)

Population completed tertiary education (25+ years):

8.65% (2017)

(Source: World Bank)

2 | Overview of Climate Change in Pakistan

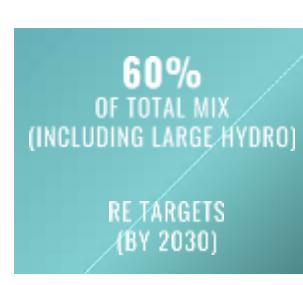
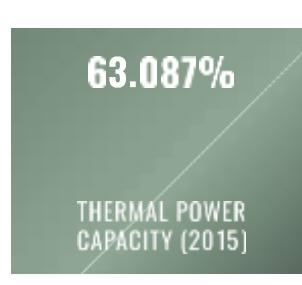
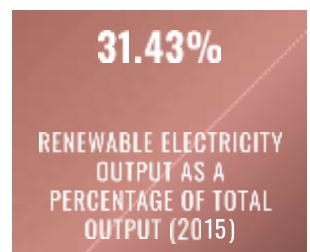
Introduction ^{iii iv}

Climate change will influence food production in Pakistan via direct (alterations to carbon dioxide availability, precipitation and temperatures) and indirect effects (impacts on water resources, soil changes and erosion, pest-related diseases and invasive species and a decline in arable area). Agriculture employs 38.57% of the Pakistan's workforce and contributes 22% to gross domestic product (GDP), making potential climate impacts and adaptation needs in the sector a high priority.

The requirement for cooling and energy-needs across sectors is expected to increase and simultaneously put a strain on the nation's infrastructure. The energy system is vulnerable to the effects of extreme climate events, which are expected to intensify under climate change. Smart, intelligent and climate friendly innovations are therefore much needed across sectors.

Pakistan targets a 20% (conditional) reduction in GHG emissions against projected emissions by 2030 and an increase in forest cover to 10 percent by the year 2030.

High Level Climate Change Stats



3 | Climate Change and Startup Policy Overview

Key Climate Change, Startups and Investment related Policies & Regulations

Climate Change Policies & Government Initiatives

2002	2005	2009	2010	2012	2016	2019
National Resettlement Policy	National Environmental Policy	National Drinking Water Policy	National Rangeland Policy	National Climate Change Policy 2012; National Sanitation Policy	National Forest Policy	Established Ministry of Climate Change and issued its Second National Communication on Climate Change

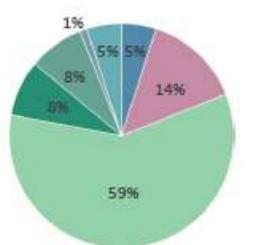
Startup/ Investment Policies & Government Initiatives

2005	2012	2015	2016	2017	2019	2020	2021
Securities Exchange	PE/ VC funds exempt	SECP introduced	SECP approved the	Finance Act	Startup Pakistan	SECP introduced	Ehsaas Program:Draft
Commission of	from tax on profits	Private Fund	license for Pakistan's	(amendments	Program with aim to	amendments through	Policy to promote
Pakistan (SECP)	and gains until 2024	Regulations to	first PE & VC funds	to Income Tax	create 10000 Startups	wide consultations on	Startups (under
introduced the first		replace 2008 PE/VC	(Ijara Capital and	Ordinance) to include	by 2023; SECP	the 2015 regulations;	development)
PE/ VC regulations		regulation	Lakson Investments);	concept of Startup;	proposed changes	Prime Minister Youth	
			Federal government	Exemption on tax on	to "Company Act" to	Entrepreneurship	
				launched five National	profits for 3 years;	broaden the definition	
			Incubation Centers	Exemption from levy	of a "Startup" (sector	Phase II	
			(NICs) across the	of minimum Tax	and industry agnostic		
			country, which		now). Additional		
			are public-private		changes include Stock		
			partnerships, and		Options, Fundraising,		
			these have collectively		Compliance etc		
			graduated 234				
			startups from their				
			programs.				

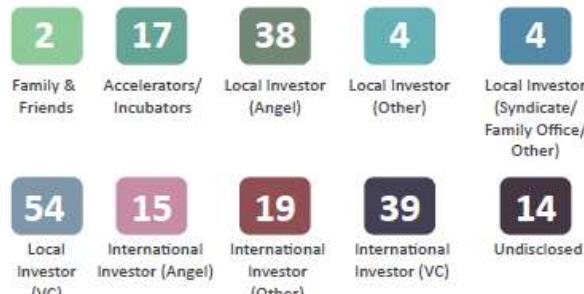
4 | Startup Investment Overview

Note: Due to lack of granular information focused on Climate Tech innovations, the deal focused information contains data for the entire Startup Ecosystem in Pakistan.

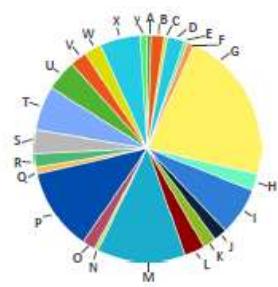
Investment by Stage^{vii} (Number of Deals, 2015 - Jul 2021)



Source of Investment^{vii} (Number of Deals, 2015 - Jul 2021)



Investment by Sector^{vii} (Number of Deals, 2015 - Jul 2021)



SECTOR

0.5%	A. Advertising	0.5%	N. Food/ FoodTech
1.9%	B. Agriculture/ AgTech	1.9%	O. Gaming
0.5%	C. Artificial Intelligence	11.7%	P. Health/ HealthTech
2.4%	D. Automotive	1.0%	Q. Housing/ Construction/ Co-Working Spaces
0.5%	E. CleanTech	1.9%	R. IOT
1.0%	F. Content	3.4%	S. MarTech/ Marketing
21.8%	G. Ecommerce	6.3%	T. On-Demand
2.4%	H. E-Tourism/ Tourism/ Travel/ Hospitality	4.4%	U. Other
6.8%	I. EdTech/ Education	2.4%	V. SaaS/ Cloud Computing
1.9%	J. Energy	2.4%	W. Social Media / Web-based Apps
1.9%	K. Entertainment	5.8%	X. Transportation/ Mobility
2.9%	L. Fashion/ Lifestyle/ Fitness	1.0%	Y. Undisclosed
12.6%	M. Fintech/ Finance		

5 | Key Stakeholders

Note: This section contains data on key stakeholders in the entire Pakistan Startup ecosystem

Key Investors ⁱⁱ

Investor	Classification	Investment Sector
Wavemaker	Venture Capitalists	Agnostic with a preference for enterprise companies.
Brinc MENA	Hybrid	Agnostic
500 Startups	Venture Capitalists	Agnostic
Acumen	Impact Investor	Impact
47 Ventures	Venture Capitalists	Technology Startups
DotZero Ventures	Angel	Fashion/Retail, E-commerce/Internet and Technology.
i2i Ventures	Venture Capitalists	Agnostic
Ignite Fund	Donor	Fourth Industrial Technology
Planet N	Angel	E-Commerce, fintech, edutech, superfood agriculture, retail and renewables sectors.
Sarmayacar	Venture Capitalists	Technology Startups

Key Impact/ Agnostic ESOs

Name	Type/ Classification
Bahria Incubator	Incubator
Founder Institute	Accelerator
Innovation District 92	Incubator
Invest2Innovate	Accelerator
NUST Technology Incubation Center	Incubator
SEED Ventures	Hybrid
InnoVentures	Incubator
Plan9	Incubator
WeCreate Center	Hybrid
Takhleeq	Incubator

Corporates with active interests in Startups and Entrepreneurship

Name	Type/ Classification
BBOXX	Bboxx a leading utility has been partnering with EcoEnergy, a leading affordable solar energy provider in Pakistan since 2017 to provide clean, reliable and affordable electricity to households in Pakistan.
NETSOL Technologies	NSpire is a tech incubator launched by NETSOL Technologies that provides startups with infrastructure, training, mentorship, networking opportunities and investment opportunities.
Telenor	Telenor has established Telenor Velocity a corporate startup accelerator which focuses on helping startups go to market, over a period of 4 months. The recent focus is on agriculture innovations
P@SHA	Nestl/O is a technology incubator and community hub launched by P@SHA with global partners Google for Entrepreneurs and Samsung. It provides budding entrepreneurs with space, infrastructure and facilities as well as network of mentors and potential investors.
World Bank	WomenX is a global initiative funded by the World Bank, geared towards supporting female-owned businesses by providing them with educational, networking and mentorship opportunities.
Fatima Group	Fatima Ventures, a venture arm of the Fatima Group in Lahore began first as an angel investor, and recently launched a \$20 million venture fund in partnership with Gobi Partners, a regional VC fund based out of China and SEA with AUM of USD \$1.2 billion.
Crescent Group	Crescent Group has established, CresVentures an angel capital firm based in Lahore. CresVentures includes partnerships with The Indus Entrepreneurs (TiE) Lahore and Islamabad.
TPL Corp	TPL E-Ventures is the Venture Capital arm of TPL Corp, Pakistan's tech giant, which aims to invest in startups at the pre-seed and seed level.
VentureDive	Is a technology company, founded in 2012, investing in "products and solutions that simplify and improve the lives of people worldwide. VentureDive is looking to invest in tech focus startups.
Artistic Corp	Artistic Ventures is a family office/fund that provides seed funding to tech startups. They work closely with their startups, providing mentorship, facilitating introductions with other investors, and helping develop sustainable, scalable business strategies. Focus sectors are: Textiles, Real estate, Renewable energy, and Tech.

Startup Profiles

Company	Year Set-Up	Sector	Sub-Sector	Sub-segment
 EcoEnergy	2010	Climate Change	Energy-Access	Energy-Access

EcoEnergy is a pay-as-you-go solar company distributing electricity to off-grid rural areas in Pakistan

Business Model: EcoEnergy goes to the doorsteps of off-grid businesses and households to sell and service high-quality solar solutions.

Innovation: Using pay-as-you-go technology to make electricity affordable to its customers by breaking upfront costs down into monthly instalments and letting the customers pay for only what they use.

Last Funding Round: Seed Round totalling USD 800K in 2018

Investors: TRINE (€500K) and other Unnamed Angels

Company	Year Set-Up	Sector	Sub-Sector	Sub-segment
 ModulusTech	2014	Circular Economy	Clean Industry	Built Environment

ModulusTech builds self-sustaining housing communities for the most underserved segments of society, providing not just homes but better health, stability, and economic opportunities

Business Model: Has invented a new design of low-cost, energy-efficient houses. The houses can be assembled in as little as three hours and can be easily transported, making it possible to build large, cost-effective colonies within a month. The products/services include Affordable Housing, Backyard Housing, Eco-Tourism spaces and B2B solutions.

Innovation: Their proprietary #IntermeshSystem enables them to build living spaces cost effectively in a short span of time, with 90% reductions in embodied carbon. The system allows houses to be prefabricated, flat-packed, shipped to site, assembled using simple hand tools with a DIY methodology, and comes integrated with a plug & play mechanism. The inhabitants are also provided access to renewable sources of energy and clean water – forming a neutral carbon footprint.

Last Funding Round: Pre-Seed, Undisclosed Amount, in 2018

Investors: Magnus Communications

Recent Deals

Start-up	Sub Segment	Detail	Funding Round	Year	Investor
Radical Growth Solutions	Food, Agriculture, Forestry and Land Use	Radical Growth Solutions is an irrigation automation system start-up powered by Artificial Intelligence	Pre-Seed	2021	Brinc
JF Labs	Food, Agriculture, Forestry and Land Use	Jf lab is providing services beneficial to agriculture sector by introducing AGROBEE, a customized heavy-duty drone, incorporated with crop monitoring techniques and pesticides spraying. The graphs and reports generated by the software will precisely diagnose soil and crops in order to determine apt solutions	Pre-Seed	2018	Angel Investor (Shahida Saleem)

6 | Key Takeaways

1 Positive steps taken on ease of doing business and capital controls, with room to improve

The recent removal of minimum capital requirement for outside investors is a positive development. Any foreign investor or investment firm can also take approval from Pakistan's Ministry of Interior prior to becoming a shareholder or director in a company registered in Pakistan. The process to invest in and repatriate profits from Pakistan is still opaque and hard to navigate though.

2 High climate change risks and vulnerabilities warrant more climate tech solutions

Climate change in Pakistan has the potential to impact a majority of Pakistan's workforce in Agriculture. Further, the requirement for cooling and energy-needs across sectors is expected to increase and simultaneously put a strain on the nation's infrastructure making potential climate impact mitigation and adaptation needs in the sector a high priority.

3 Focused climate action, particularly towards expanding renewable energy capacity

Pakistan's overall climate risk index rank is very high and the country's intent on creating more focused climate action is reflected with its' ambitious target to raise renewable energy in the total mix to 60% by 2030 (which will include hydropower as well).

4 Strong government interest in creating a culture of innovation and supporting the startup ecosystem

The country's creation of a dedicated Ministry of Climate Change, government support to startups through funding, incubator/accelerator programs as well as recent regulations and amendments in favour of startups and investors alike is a positive sign on the interest being given to creating an innovation culture and ecosystem in Pakistan.

5 Growing investor interest across sectors with an opportunity for more pre-seed/seed stage funding in climate tech

There are a growing number of investors both foreign and local (particularly angels/ syndicates/ family offices/ corporates etc.) looking to invest into Pakistan across sectors. Climate-tech is a core focus among only a handful of investors, with majority either having a wider interest across sectors or looking at tech-startups. There is room therefore for more quality angel investors at the pre-seed and seed-level in Climate tech in order to address increasing demand from startups.

Endnotes

(All data as accessed on 10th September 2021)

- i. <https://invest2innovate.com/wp-content/uploads/2020/12/i2iInvestorToolkit.pdf>
- ii. <https://invest2innovate.com/wp-content/uploads/2020/12/i2i-Pakistan-Startup-Ecosystem-Report-2019.pdf>
- iii. <https://www.adb.org/sites/default/files/publication/700916/climate-risk-country-profile-pakistan.pdf>
- iv. <https://www.climatewatchdata.org/countries/PAK?sector=lulucf>
- v. <http://mocc.gov.pk/Policies>
- vi. <https://airtable.com/shrsy589UNNLpKHxD/tblFRzINDGrn78ZTd/viwOtx6u0yBwMtW9a?blocks=hide>