

Solar panel manufacturing and power storage

Sector Pitch

August 2025



Pakistan's recently reformed economy and vibrant and talented population have contributed to the nation's appeal as an investment destination

Pakistan Value Proposition

Reformed Economy



USD 3.3Tn¹

Expected GDP in 2050 (from USD >410Bn² today)



B-

Improved Credit Rating³ from CCC-



Top 10

In Business Entry Regulations ranking⁴



Stabilized Inflation

At lowest levels since 1968⁵



Stabilized Currency

Achieved since 2023 in coordination with IMF



10-Year Tax Holidays

and other fiscal and trade incentives in Special Economic Zones⁶



Vibrant Demographics and Talent



255 million

Large and growing population⁷



64%

Population younger than 30⁷



7th largest

Workforce globally⁸



2 million

University students enrolled every year⁹



1. Goldman Sachs; 2. National Accounts Committee; 3 Fitch Ratings; 4. World Bank's B-READY assessment; 5. US (St Louis) Federal Reserve Bank; 6. Pakistan Government; 7. United Nations; 8. CIA World Factbook; 9. Higher Education Commission

To develop critical mass, Pakistan is advancing strategic initiatives to boost private investment in critical sectors of the economy

2023 SIFC ESTABLISHMENT

SIFC has been established to act as a **single window to create a thriving business environment and develop favorable policies to increase ease of doing business**



2024 ECONOMIC AGENDA LAUNCHED

Pakistan launched Uraan Pakistan, aimed at economic development across 5 pillars:



Ongoing OPPORTUNITIES PIPELINE DEVELOPMENT

The government is working on developing a **pipeline of internationally competitive investment opportunities geared towards full operational and commercial facilitation**



Pakistan is actively seeking to partner with global stakeholders, to **leverage international expertise and investments, while safeguarding the viability and profitability of each project from an investor's standpoint**



Pakistan is strengthening the integrity of key enablers that will unlock sustained progress in multiple economic sectors

1 Consistent Policy Framework

Consistent FDI, tax, and industrial policies with long-term orientation and minimal reversal risk



2 One-Window Investor Facilitation

Seamless processing of approvals, permits, and licenses. A single, empowered agency that owns this end-to-end journey



3 Ease of Repatriation of Profits

Steadfast assurances to repatriate profits and convert currency without friction



4 Legal & Contract Enforcement

Independent, fast-track commercial courts and adherence to international arbitration standards



5 Political and Macro Stability

Strong stability in terms of macroeconomic environment (inflation, debt, currency) and cross-party consensus



6 Positive Global Perception

A globally resonant and visible narrative shift for Pakistan showcasing its viability



Pakistan is currently working on incentives geared to catalysing private sector investment across multiple sectors

The government continues to enact major steps that reinforce attractiveness and viability of the private sector

1 Ensures investment protection

Implementation of key investment regulations, such as:

- Foreign Private **Investment Promotion and Protection Act**
- **Bilateral Investment Treaties** with Friendly Countries
- **Special Economic and Technology Zones (SEZs, STZs)** regulation

2 Preserves security and safety

- Pre-approved **site access** for **Special Economic Zones (SEZs)**
- **Specialized, highly trained security units** for investor protection
- **Enhanced law enforcement and monitoring** at industrial zones
- Controlled, heavily surveilled, and **secure project sites**



2 Pak-China Trade Relations

- **China and Pakistan** have developed key treaties and agreements, including:
 - Bilateral Investment Treaty: China–Pakistan Economic Corridor (**CPEC**)
 - **China-Pakistan Free Trade Agreement (CPFTA)** (raw materials duty free)

3 Enables global trade access

- **Export Facilitation Scheme (EFS)**
- Signed **major trade agreements** (PTAs & FTAs)
- **Connected to key global markets**
- Access to **South Asian Free Trade Area**, and more



These efforts have garnered international recognition, as Pakistan has been featured in the international media as an emergent attractive investment destination

Where Pakistan Has Been Featured

BARRON'S

Bloomberg

FitchRatings

ARAB NEWS

Key Articles

**Pakistan Isn't That Risky Anymore.
Its Economy Is a Mini-Miracle.**

**Pakistan Economy Grows Faster Than
Expected on IMF Aid Boost**












Pakistan economy moving in
'right direction' — IMF chief

PAKISTAN: Staying the Course on Implementing Structural Reforms Critical to Turn Economic Stabilization into Sustained, Inclusive Growth, says World Bank

International recognition highlights Pakistan's renewed economic attractiveness and stability

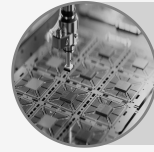
Multiple global and regional entities have announced recent FDI projects in Pakistan

Examples of Foreign Direct Investment (FDI) projects in Pakistan

FDI projects (non-exhaustive)		
<p>Hangzhou Newsea (China) USD 50-70Mn</p>  <p>– Joint venture to expand API manufacturing capacity in Pakistan</p>	<p>AD Ports (UAE) USD 220Mn</p>  <p>– 50-year concession agreement to manage, operate and develop the Karachi Gateway Terminal</p> <p>مجموعة موانئ أبوظبي AD PORTS GROUP</p> 	<p>Al Mirqab Capital (Qatar) Power Construction Corp. (China) USD 2.09Bn</p>   <p>– Construction of coal-powered power plant in Port Qasim</p> <p>مجموعة المرقاب للمشاريع Al Mirqab Projects Group</p>   <p>中国电建 POWERCHINA</p>
<p>DP World (UAE) and National Logistics Corp. (Pakistan) JV investment not public</p>  <p>– Development of 50km freight corridor from Karachi Port to Pripri</p>  <p>DP WORLD</p>	<p>Air Arabia (UAE) and Lakson Group (Pakistan) JV investment not public</p>  <p>– Joint venture with Pakistan's Lakson Group to launch low-cost airline Fly Jinnah in 2022</p> <p>AirArabia العربية للطيران</p> 	<p>Other Announcements and MoUs (non-exhaustive)</p> <p>Reportage Properties</p> <p>EMAAR</p> <p>MANARA MINERALS</p> 

Moving forward, Pakistan aims to propel domestic growth across 15 investment areas

Pakistan's Focus Investment Areas



Semiconductors



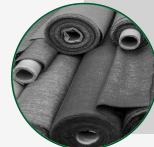
Power Sector



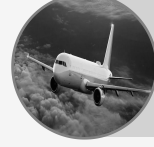
Pharmaceutical Sector



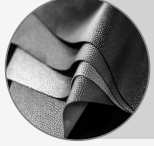
Petroleum Sector



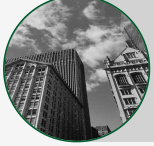
Textiles



Aviation



Leather: Tanned, Footwear,
Gloves and Garments



Real Estate



Food & Agriculture



Iron, Steel & Copper



ICT, Fintech & Software



Automotive:
Electric Vehicles (EVs) and
Traditional Automobiles



Chemicals & Petrochemicals



Solar Power

Focus of this Presentation



Agri-Tech

Untapped Potential: Local manufacturing opportunities in Pakistan’s booming \$1.3B solar and battery market exist for smart investors

Pakistan’s Power Sector

Installed Gen. Capacity 44,000 MW (2024)	Estimated Annual Demand Growth 7-9%	Electrification Rate 73%	Solar potential 300+ sunny days	Wind & Hydel 110,000 MW
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Market size and key drivers

Current market size and import penetration

- Current market size estimated at **~USD 1.3 billion**; imports dominate the market (solar panels, inverters, batteries, and services)
- **Import penetration exceeds 85%**, especially in rooftop and agri tube well segments indicating strong potential for local manufacturing
- **10,000+ MW potential** of rooftop solar, especially in industrial and urban areas, offers a globally unique and distinguished opportunity for growth

Underlying growth drivers

- Electrification of **remote and off-grid** communities
- Government support through **ARE Policy 2019** promotes renewable energy to reduce energy deficits and fuel import
- **Limited domestic production of solar panel and battery** manufacturing resulting in opportunity for localized assembly, especially lithium-ion/hybrid systems

Specific sectoral demands

- Expansion of **agribusiness** may drive demand for **solar power**, especially in livestock and fishery sector (4.7% and 1.4% respectively in FY25)
- Growth in **e-commerce and logistics**, may also drive demand for off-grid and backup power solutions (~17% CAGR till 2027 as per ADB)
- High demand from solar energy, **electric vehicles, telecom**, and digital infrastructure in the domestic battery market

Complementarity with Chinese players

- Pakistan complements China’s **industrial restructuring and global expansion**
- Power **infrastructure** built by Chinese, e.g., transmission lines enables large-scale renewable integration
- Pakistan is **committed to developing clean energy initiatives** as per its agreements with the IMF under the RSF (Resilience and Sustainability Fund)

Pakistan offers rare advantages for renewable energy and agribusiness supply chains



Unparalleled climate conditions

- Pakistan offers one of the **highest solar irradiation** levels in the region, ranging between **4.5 and 7.0 kWh/m²/day** and experiences **8–8.5 hours of sunlight per day**
- Provinces such as Baluchistan, Sindh, and southern Punjab are especially **rich in solar energy potential**, offering ideal conditions for both utility-scale **solar PV and CSP (Concentrated Solar Power) plants**



Strategic geographic location

- Pakistan is a **connector state** linking South Asia, West Asia, and Central Asia
- Offers **access to China, Middle East, and Africa** through Karachi, Port Qasim, and Gwadar
- **Low cost of logistics**, especially to:
 - China: 15–22 days; \$950–\$1,200 freight cost
 - Europe: 30–35 days; \$4,000–\$5,000 freight cost



Abundant natural resources

- **Silica Sand/Quartz:** ~988 million tons available; essential for silicon production in PV cells; key sites across the country
- **Copper:** Major deposits in Baluchistan (Reko Diq, Saindak); critical for wiring, inverters, and battery components.
- **Silver:** Found in Baluchistan and northern areas; conductive pastes for solar cells.
- **Iron & Bauxite (Aluminum):** Over 500M tons of iron and 74M tons of bauxite; supports solar frame and battery
- **Lithium:** Early-stage findings in KP and Baluchistan; potential for lithium-ion battery

Investors gain from targeted government policies designed to catalyze growth

Key opportunity enablers and incentives

FDI related enablers

Streamlined incorporation

Pakistan Single Window (PSW) initiative allows 24–48-hour business registration and minimal documentation

Fast track desk

Sector specific licensing through BOI's China desk and focal points at Federal IPAs

Liberal investment regime

Level playing field for foreign investors, 100% ownership, remittances and business visa on arrival



Policy & incentive framework

Long term policy horizon

10-year policy horizon with clear targets for solar power

Exemptions on capital goods in SEZs

One time exemption from Custom Duty/ Taxes on import of Capital Goods in 35x notified SEZs

Tax incentives

CD, ACD, RD, and Sales Tax exemptions on machinery, parts, and raw materials

Duty exemptions are managed through FBR's body (IOCO) based on approved business plans and quota allocations



Risk mitigation

Security SOP sharing

Advance security protocol sharing with Chinese firms; required for visits to industrial sites & SEZs

CPEC security division

Pak army troops deployed under Special Security Division (SSD) to secure Chinese personnel & assets

On-Site Security Zones

SEZs like Rashakai, Gwadar and Dhabeji have dedicated Law Enforcement Agency personnel and checkpoint perimeters



Trade connectivity

Preferential trade agreement

Mauritius, Iran, Indonesia & Afghanistan

ECOTA

ECO Member States (Iran, Turkey, Azerbaijan, Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan)

Trade & Investment Framework Agreement

With China, Sri Lanka and Malaysia

GSP+ (EU)

27 member states of European Union



Chinese investors will benefit from a robust ecosystem of supportive regulators, competent oversight bodies and other effective industrial lobbies

Board of Investment

- **National one window investor desk**, SEZ licensing, CPEC desk, FDI guidance, Chinese helpdesk
- **Provincial BOIs** to support land allocation, power connections, utility approvals, and facilitation of construction permits



Special Investment Facilitation Council (SIFC)

- **Facilitates and fast-tracks foreign and domestic investments** in Pakistan
- Provides a **streamlined, one-window operation for investor support**, and coordination across government entities

Key Sector Players and Stakeholders

Ministry of Industries & Production

- **Policy approvals**, localization regulations, metallurgy industrial policy anchor
- **Sector specific roadmaps** for Pakistan, including solar
- **Support to SMEs** to enhance the sector













Other bodies

- **Federal Board of Revenue (FBR)** for export facilitation scheme (EFS), customs waivers, bonded warehousing, green channels, etc.
- **State Bank of Pakistan (SBP)** for FX repatriation, RMB-PKR swap, industrial refinance, etc.
- **Pakistan Single Window** for investor onboarding, SECP for 2 day business registration

Pakistan is home to a diverse array of Power entities, both multinational corporations and domestically based firms, actively engaged across the power and solar value chain

Select Leading Players in Pakistan

  <p>SKYELECTRIC</p>	<p>SkyElectric holds a leading position in Pakistan’s solar sector, with over 10,000 smart solar systems installed nationwide. They provide integrated AI-enabled on-grid, off-grid, and hybrid solar solutions for residential, commercial, and industrial clients</p>
  <p>ShamsPower</p>	<p>Shams Power limited is a significant player in Pakistan’s solar energy market. They specialize in developing and implementing solar power projects, particularly for commercial and industrial consumers with innovative financing models to facilitate adoption</p>
  <p>Premier Energy Eliminating Losses</p>	<p>Premier Energy holds an estimated 14% of shares in total kilowatts net metered across Pakistan. They are a leading provider of solar solutions, including on-grid, off-grid, and hybrid systems catering to residential, commercial, and industrial clients</p>
  <p>LONGi</p>	<p>LONGi Green Energy Technology is a major solar energy supplier in Pakistan, providing modules for projects like a 70MWp cement group installation and a 165KW commercial rooftop solar project in Peshawar</p>
  <p>CTG China Three Gorges Corporation</p>	<p>China Three Gorges South Asia Investment Limited is a prominent player in Pakistan’s renewable energy sector. Their indicative project pipeline in Pakistan includes solar, wind and hydro projects including a proposed 50 MW Solar PV project in Sindh</p>

Eight initial investment pathways may be considered for Chinese solar players to partner with Pakistan’s rising energy market

Non-Exhaustive, Preliminary

Partnership opportunities with Pakistan

- 1 Local manufacturing (PV modules, solar cells, etc.):** Evolve from assembly to cell production to polysilicon refining
- 2 Circular economy model:** Extract 95% pure silver / glass from end-of-life panels
- 3 Brand neutral JVs:** No negative implications associated with potential local partners
- 4 CPEC Infrastructure:** Integrate Chinese modules / tech into solar parks and grids under CPEC
- 5 Hybrid financing:** Loan plus equity structures along with RMB/PKR settlements via offshore clearing centers
- 6 Solar inverters:** High demand grid integration technology, which is currently 100% imported
- 7 Allied components:** Manufacturing of essential components which are currently imported, e.g., tempered glass, EVA sheets, junction boxes, etc.

Potential Local Partners (*non-exhaustive*)

Reon
Energy



兴储世纪
ZONERGY

**YELLOW
DOOR
ENERGY**



S K Y E L E C T R I C



Alpha Solar

Thank You

