

## **“Green Technologies” - Pakistan’s Success Stories**

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### **Introduction**

This article highlights the real strength and strategically important location of Pakistan within Asia. Pakistan is self-sufficient in highly competent human resources and blessed with copious amounts of natural resources. Pakistan enjoys four beautiful seasons, and features the highest mountains of the world, the largest canal and irrigation systems, the availability of more than 1200 km of sea seashore / coastal area, and much more which is beyond anybody’s perception without physically visiting Pakistan.

### **Efficient Utilization of “Green Technologies” in Pakistan**

Pakistan is one of the blessed countries in the region to have one of the largest “Wind Corridors” and availability of “Sun Energy” at the average of 8 to 10 hours, throughout the country. The country has already aimed to boost technology transfer from different countries for Solar and Wind energy. Pakistan has already signed to generate about 3000 MW of energy through Wind and Solar by 2023. The new policy has set a target of about 5% growth in solar and wind energies.

Pakistan’s Alternate Energy Development Board and Sustainable Development Policy Institute (SDPI), reports are highly encouraging, and with the help of mega support by Asian Development Bank and US Agencies of International Development have already been approved for the development of infrastructure and transfer of technologies for the manufacturing of plants and components of these “Green Technologies”.

- <https://www.theguardian.com/environment/2011/jul/07/pakistan-green-technologies>

### **Wind turbine and Solar systems in Pakistan**

While the AEDB has been tasked with the rather un ambitious goal of producing 5% of Pakistan’s power from renewable resources by 2030, a [USAID study](#) found that almost 50% of the electricity to the national grid could be supplied by a wind and solar PV with more sophisticated forecasting techniques and minor changes to the grid. Complete reports are available at following links:-

- [https://www.thethirdpole.net/en/energy/wind-power-gains-momentum-in-pakistan/?gclid=CjwKCAjwjbCDBhAwEiwAiudBy6Yds99LLJyBiRcgLI2T1IVmRUatXEifxx0TPnLbKNTrlUI-H3bjlxoCDFEQAvD\\_BwE](https://www.thethirdpole.net/en/energy/wind-power-gains-momentum-in-pakistan/?gclid=CjwKCAjwjbCDBhAwEiwAiudBy6Yds99LLJyBiRcgLI2T1IVmRUatXEifxx0TPnLbKNTrlUI-H3bjlxoCDFEQAvD_BwE)
- <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/884991601929294705/variable-renewable-energy-integration-and-planning-study>

## **Research & Development on Green Technologies - Pakistan**

Pakistan's universities have also run pilot projects, in areas like cell fuel, biodiesel, ethanol fuel, innovative lightning systems and fuel cells for vehicle and biogas. Centre for Environmental Economic and Climate Change (CEECC) Pakistan, and Pakistan Institute of Development Economics Pakistan has carried out comprehensive study of the issue and their results are extremely encouraging.

- <https://ideas.repec.org/p/pid/ceeccp/201304.html>

## **The Sustainable Development Policy Institute (SDPI) of Pakistan**

This institute provides the global sustainable development community with representation from Pakistan as well as South Asia as a whole. The Institute's mission is: "To catalyze the transition towards sustainable development, defined as the enhancement of peace, social justice and well-being, within and across generations". The [Think Tank](#) is based in Islamabad, Pakistan. The Lauder Institute of University of Pennsylvania ranks it at number 15 among research institutes in Southeast Asia and the Pacific region.

SDPI was founded in August 1992 on the recommendation of the Pakistan National Conservation Strategy (NCS), also called Pakistan's Agenda 21. The NCS placed Pakistan's socio-economic development within the context of a national environmental plan. This highly acclaimed document, approved by the Federal Cabinet in March 1992, outlined the need for an independent non-profit organization to serve as a source of expertise for policy analysis and development, policy intervention, and policy and program advisory services. SDPI is registered under the Societies Registration Act, XXI of 1860.

- [https://www.google.com/search?q=The+Sustainable+Development+Policy+Institute+\(SDPI\)+of+Pakistan+&tbm=isch&ved=2ahUKEwiQi4XAv4DwAhUPXRoKHQIUDwoQ2-cCegQIABAA&oq=The+Sustainable+Development+Policy+Institute+\(SDPI\)+of+Pakistan+&gs\\_lcp=CgNpbWcQDFD2twY9rcLYJLFC2gAcAB4AIABqAKIAagCkgEDMi0x](https://www.google.com/search?q=The+Sustainable+Development+Policy+Institute+(SDPI)+of+Pakistan+&tbm=isch&ved=2ahUKEwiQi4XAv4DwAhUPXRoKHQIUDwoQ2-cCegQIABAA&oq=The+Sustainable+Development+Policy+Institute+(SDPI)+of+Pakistan+&gs_lcp=CgNpbWcQDFD2twY9rcLYJLFC2gAcAB4AIABqAKIAagCkgEDMi0x)

[mAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&scient=img&ei=cVJ4YNCOMo-6aYKovFA&bih=781&biw=1707&rlz=1C1SQJL\\_enPK921PK921](https://www.researchgate.net/publication/348440000/figure/fig/1/figure-fig1/1517218111111/mAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&scient=img&ei=cVJ4YNCOMo-6aYKovFA&bih=781&biw=1707&rlz=1C1SQJL_enPK921PK921)

## **Production of Electric Vehicles (EV) - Pakistan Green Technology's Project**

The Government of Pakistan which focuses on buses, trucks and 2-3 wheelers while leaving out cars in the first phase. This was followed by the announcement of the EV policy for four wheelers, which is set to remain in force till June 30, 2026. Both policy drafts focus on tax breaks, capping of custom duty, reduction in toll tax, and exemption from FED subsidies and import duty on machinery for the manufacturing of EVs, but do not offer direct consumer subsidies on the purchase of electric vehicles. Tesla EV to launch in Pakistan, a very prominent initiative by Pakistan

- <https://nation.com.pk/26-Jan-2021/tesla-ev-to-launch-in-pakistan>

## **Reforestation Plan - Pakistan's Historical Project**

Reforestation drive is on track to plant more than **ten billion trees Tsunami**, by mid-2023 to mitigate the effects of climate change. Pakistan's Historic initiative for the Reduction of Environments Pollution / Worst effects of climate change, Reduction in Carbon Emission and enhancement of Green Environments has already under taken the plantation of 500+ M new trees and plants during last two years. This initiative has been also under taken by Saudi government with the help of Pakistan.

The four-year program restored 350,000 hectares of forests and degraded land, surpassing its 348,400 hectares commitment to the Bonn Challenge and winning Khan international praise for his climate change efforts.

Pakistan's government signed an agreement with a consortium of three international organizations for a third-party monitoring and evaluation of the "Ten Billion Tree Tsunami" program from 2020 to 2024. The consortium comprises WWF-P, the UNFA Organization (FAO) and ICUN-P.

- <https://www.voanews.com/south-central-asia/pakistan-plants-500-million-new-trees-drive-against-climate-change>

## **Achieving Environmental Sustainability through Information**

### **Technology: “Digital Pakistan” Initiative for “Green Development”**

The importance of information and communication technologies (ICTs) in environmental resource management opens a new debate for the policy makers in order to promote green technologies to mitigate high mass carbon emissions across the globe. “Digital Pakistan” initiative is taken by the government that aimed to use technology for country’s social welfare, which further be enhance for achieving environmental sustainability over a time horizon. This study examined the long-run relationship between ICTs, energy demand, and carbon emissions in a context of Pakistan by using a time series data from 1975 to 2017. The results show that energy demand increases economic growth in the short-run while it decreases economic growth in the long-run. The country’s economic growth substantially increases along with an increase in trade openness and mobile-telephone subscription (ICTs) in the short-run. The results provoke that continued economic growth and ICT penetration substantially decreases energy demand, whereas urbanization increases energy demand in a country. The results show that variations in emissions associated with proportionate changes in ICTs penetration, economic growth, energy demand, and population growth. Human capital, trade openness, and energy demand are the significant drivers of ICT penetration in a country. The study concludes that the use of green technology is imperative for achieving long-term sustainable growth in a country.

- <https://link.springer.com/article/10.1007/s11356-020-07683-x>

## **Latest Success Story of Pakistan under COVID -19, Turmoil – Jan 2021**

The outbreak of COVID – 19 Pandemic, prompted government of Pakistan to introduce nationwide lockdowns to curb the spread of the COVID-19 virus, which has infected few hundred thousand Pakistanis, and resulted in just 6,500 deaths. New infections, however, have dramatically and steadily declined to 30 to 50 persons, in whole Pakistan, in Jan to Mar 2021, encouraging the government to lift all lockdowns. And by now (Mar - Apr 2021) more than 2 Million dosages of COVID Vaccines “Free of Cost” have already been administrated throughout the country.

International reports shows enormous growth in Pakistan in the fields of “Green Technologies” and as per Global Finance World Economic Union Report Jan 2021, Pakistan is the 2<sup>nd</sup> largest country of the world, in the growth of “Green Technologies” after China, during COVID – 19 Pandemic.

- <http://cppg.fccollege.edu.pk/wp-content/uploads/2020/04/PPG-Covid-19-Policy-Document.pdf>

- [https://www.google.com/search?q=Global+Financ+World+Economic+Union+Report+Jan+2021%2C&rlz=1C1SQJL\\_enPK921PK921&oq=Global+Financ+World+Economic+Union+Report+Jan+2021%2C&aqs=chrome..69i57.1920j0j4&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Global+Financ+World+Economic+Union+Report+Jan+2021%2C&rlz=1C1SQJL_enPK921PK921&oq=Global+Financ+World+Economic+Union+Report+Jan+2021%2C&aqs=chrome..69i57.1920j0j4&sourceid=chrome&ie=UTF-8)

**Pakistan has numerous success stories, utilizing Green “Technologies” by highly skilled entrepreneurial all over the Pakistan. The multiple big stories about entrepreneurial in Pakistan can be evaluated through following links.**

- <https://pakistanshining.com/>
- <https://www.techjuice.pk/multiple-accolades-winner-sehat-kahani-raises-a-pre-series-a-round-of-1-million-to-expand-its-telemedicine-network-in-pakistan/>
- <https://www.pide.org.pk/pdf/Working%20Paper/WorkingPaper-2021-2.pdf>

## **Environment Friendly Technologies in the Production of Cement & Power for the Eradication of SO<sub>2</sub> & Carbon Emission – Historical event**

DG Cement, is the Pakistan’s largest single line Greenfield Environment Friendly, has started manufacturing cement on European and British technologies and Pakistani standards specify that in a Sulphate Resistant Cement, the C3A content must not exceed 3.5%. D.G Sulphate Resistant Cement has a much lower C3A content, making the cement highly effective against Sulphate attacks. Pakistan Standard PS 232-2008 (R). American Standard ASTM C-150 Type-1 & Indian Standard for IS 12269 Grades 43 & Grade 53, with UK international standards 2015, with 100% percent pollution free & Zero% Carbon Emissions production capabilities, with state of the art technologies. The Clean coal Technologies are also being adopted and generation of 30MW Coal Fired Power (CFP) Project to prevent SO<sub>2</sub>, control of pollution, lowest gaseous, dust stack emission and multiple green technologies are also being initiated.

- <https://www.dgcement.com/products.html>

## **Strength of Pakistan’s Growth**

To further find out the real **strength of Pakistan’s growth** and why Pakistan is among **Top 10 countries of the world having copious natural resource**, and Pakistan’s talent pool, explore at:-

- <https://invest.gov.pk/>.
- <https://pakistanshining.com/pakistani-scientist-invents-worlds-first-eco-friendly-aircraft-engine/>

## **Technology Transfer Support Fund of Pakistan**

For implementations of government of Pakistan's policy of TTFS 2020 Project, and Project Proposals for CAREC Transport Strategy 2020-30, and National Priority Actions for Transport Facilitation by Road, Rail, Air & Maritime, explore complete details at:

- [https://www.carecprogram.org/uploads/11E\\_PAK\\_EN.pdf](https://www.carecprogram.org/uploads/11E_PAK_EN.pdf)

Non-Tariff Measures, Overall Protection, and Export Competitiveness: Evidence from Ministry of Communications of Pakistan and Regional Countries, detailed report is given at:-

- <https://www.pide.org.pk/pdf/Working%20Paper/WorkingPaper-2021-2.pdf>

## **Pakistan Institute of International Affairs (PIIA)**

To further evaluate the importance of Pakistan, following article, Webinars and Seminars, by the PIIA, will further clarify the importance of Pakistan in the world and specifically in the Asia.

- <https://www.youtube.com/watch?v=RtpMOVbyW3M>
- [https://www.google.com/search?q=Pakistan+Institute+of+International+Affairs&rlz=1C1SQJL\\_enPK921PK921&sxsrf=ALeKk014jNkXK6mIM5s4eNxG6eDFITqug:1618498069922&tbm=isch&source=iu&ictx=1&fir=ca0dqa73AtnBKM%252CqJ9MrzmQnK1ADM%252C%252Fm%252F0977bn&vet=1&usg=AI4\\_-kTr-j-hfCW6ExX5HNPbH-wKS-QVIQ&sa=X&ved=2ahUKEwjhvpuUv4DwAhXaMMAKHeLgAJ4Q\\_B16BAgoEAI&biw=1707&bih=781#imgsrc=ca0dqa73AtnBKM](https://www.google.com/search?q=Pakistan+Institute+of+International+Affairs&rlz=1C1SQJL_enPK921PK921&sxsrf=ALeKk014jNkXK6mIM5s4eNxG6eDFITqug:1618498069922&tbm=isch&source=iu&ictx=1&fir=ca0dqa73AtnBKM%252CqJ9MrzmQnK1ADM%252C%252Fm%252F0977bn&vet=1&usg=AI4_-kTr-j-hfCW6ExX5HNPbH-wKS-QVIQ&sa=X&ved=2ahUKEwjhvpuUv4DwAhXaMMAKHeLgAJ4Q_B16BAgoEAI&biw=1707&bih=781#imgsrc=ca0dqa73AtnBKM)

## **This is short success story of “PAKISTAN”**

Lt Col Kaukab Ikram Mughal (Retd) is newly elected Honorary Secretary CILT Pakistan, having multidimensional experiences in the fields of Telecomm, IT, MIS, handling of security systems, and having passion for Green Technologies and their effective utilizations.

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# PAKISTAN'S GEO-STRAATEGIC LOCATION

