

Pakistan National Scoping Study

September 2017



Acknowledgements

The authors express their deepest appreciation to the policy experts, bankers and private sector respondents whose valuable inputs are the *raison d'être* for this scoping study.

Deepest gratitude is also owed to Environment and Development Division of UNESCAP for conceiving and taking Sustainable Development Policy Institute on board a novel and very important project of mobilising domestic climate finance.

The support of higher management of Sustainable Development Policy Institute has been very fruitful during the process of information gathering and writing of this Study. The authors are profoundly grateful to the higher management of SDPI.

Networks formed during the process of scoping study can prove helpful in the future. The authors believe that these networks will be crucial in supporting the next phases of UNESCAP's long term regional project on Innovative Climate Financing Mechanisms.

List of Acronyms

AFD	Agence Francaise de Developpement (French Development Agency)
ATM	Automated Teller Machine
CC	Climate Change
CDM	Clean Development Mechanism
CF	Climate Finance
CO ₂	Carbon Dioxide
DFIs	Development Finance Institutions
ESRM	Environmental and Social Risk Management
GCF	Green Climate Fund
GHG	Green House Gas
GIZ	Gesellschaft für Internationale Zusammenarbei (German Development Agency)
GoP	Government of Pakistan
IFC	International Finance Corporation
IT	Information Technology
LEAD	Leadership for Environment and Development
LED	Light Emitting Diode
NAMA	National Appropriate Mitigation Actions
NAP	National Adaptation Plan
PAK-INDC	Pakistan Intended Nationally Determined contribution
PBC	Pakistan Business Council
PCCA	Pakistan Climate Change Act
PKR	Pakistani Rupee
PSDP	Public Sector Development Programs
SBN	Sustainable Banking Network
SBP	State Bank of Pakistan
SDGs	Sustainable Development Goals
SDPI	Sustainable Development Policy Institute
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USD	United States Dollar
WAPDA	Water and Power Development Authority
WWF	World Wide Fund
ZTBL	Zarai Taraqiati Bank Limited

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1. Introduction

Despite making minimal contributions of only 0.8% to global greenhouse gas emissions, Pakistan is consistently ranked one of the top ten most vulnerable countries in the world to climate change. The Global Climate Risk Index 2017¹ estimates that Pakistan's economy incurred over USD 3823m in losses due to climate change from 1996 to 2015 and according to the National Disaster Management Report, a further USD 18bn was lost due to major floods that occurred between 2010 and 2014, with 30.12m people affected, 3.45m houses destroyed and 10.63 acres of crops damaged².

The Government of Pakistan (GoP) has a vital role to play in addressing climate change, specifically carbon mitigation and adaptation, and according to Pakistan's Intended Nationally Determined Contribution (PAK-INDC) it has a 20% emissions reduction target by 2030 under the business as usual scenario³. In order to achieve this target, the government has undertaken various projects such as the Green Pakistan Programme promoting tree plantation across the country and the construction of the 1,000 MW Quaid-e-Azam solar park in Punjab.

In response to the adverse effects of climatic shocks and stresses, the GoP allocated 5.8-7.6% of total expenditure in federal budget last year to climate change initiatives and results from the Pakistan Economic Survey 2016-17 suggest that Rs 815m⁴ was spent on Public Sector Development Programs (PSDP). To support power sector development, the government is currently proposing Rs 401b in investment, including Rs 317b under the Water and Power Development Authority (WAPDA) by 2018. The GoP has also introduced a new energy programme -- "Energy for All" -- with an initial investment of Rs 12.5 b⁵.

In 2017, the cabinet division of Pakistan passed the Pakistan Climate Change Act (PCCA) which established new legal and institutional foundations for climate action in Pakistan. The institutional framework articulated in the PCCA 2017 envisages the formation of a Pakistan Climate Change Council and Pakistan Climate Change Authority, which will be tasked with collectively steering climate action in Pakistan, developing a framework for climate change mitigation and adaptation and a strategy for climate change applying to all sectors of the economy. In addition, a "Pakistan Climate Change Fund" will be created to generate funds from various domestic and international sources.

Pakistan's central bank, the State Bank of Pakistan (SBP), is similarly engaged in climate action although its conventional role is restricted to monetary policy. In 2013, SBP created a Green Banking/Sustainable Banking Unit to enact environmentally friendly practices and perspectives in banking. Under this unit, it introduced Green Banking Guidelines to encourage Commercial and Development Finance Institutes (DFIs) to promote green businesses and encourage lending for green enterprise⁶. It also initiated the "SBP Refinancing Scheme for Renewable Energy" to meet the growing demand for electricity through alternative renewable energy resources and providing concessionary financing to climate related projects⁷. Private commercial banks have followed suit, with JS Bank successfully converting more than 100 of its branches to solar power and transitioning all computers, servers, ATMs and teller stations in these branches to solar energy.

In the private sector, the Pakistan Business Council has developed a "Centre of Excellence in Responsive Business" to increase the capacity of private businesses in sustainable development, conduct research on climate change and promote private sector investment in green businesses⁸.

¹ Kreft, S., Eckstein, D., Dorsch, L., & Fischer, L. (2016). Global Climate Risk Index 2017: Who Suffers Most From Extreme Weather Events? Weather-related Loss Events in 2015 and 1996 to 2015.

² Pakistan's Intended Nationally Determined Contribution (PAK-INDC), (2016) <http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Pakistan/1/Pak-INDC.pdf>

³ Ibid.

⁴ GoP, (2017). Budget in Brief, 2017-18, Ministry of Finance, Government of Pakistan <http://www.finance.gov.pk/budget/Budget%20in%20Brief%202017-18.pdf>

⁵ GoP, (2017). Budget Speech, 2017-18, Ministry of Finance, Government of Pakistan http://www.finance.gov.pk/budget/budget_speech_english_2017_18.pdf

⁶ SBP, (2015). Annual Performance Review, 2014-15. State Bank of Pakistan. Karachi [http://www.sbp.org.pk/reports/annual/arFY15/Vol1/APR-FY15\(Complete\).pdf](http://www.sbp.org.pk/reports/annual/arFY15/Vol1/APR-FY15(Complete).pdf)

⁷ SBP, (2016). Revised SBP Financing Scheme for Renewable Energy. <http://www.sbp.org.pk/smfcd/circulars/2016/c3.htm>

⁸ <http://pbc.org.pk/research-initiatives/centre-of-excellence-in-responsible-business-cerb/>

1.1 Methodology

This scoping study was undertaken as part of the United Nations Economic and Social Commission for Asia and the Pacific's (UNESCAP) regional project on innovative climate finance mechanisms for financial institutions. The project seeks to identify the gaps in, develop and deliver targeted advisory and technical assistance to central and national development banks in four to five countries in the Asia-Pacific region in order to enhance the capacity of these institutions to put in place policies and guidelines that encourage investment towards climate mitigation and adaptation projects.

This scoping study describes the roles of different sectors such as government institutions, banks and the private sector in developing institutional arrangements to mobilise national and international climate finance. In seeking to identify relevant stakeholders for climate finance in Pakistan, the Sustainable Development Policy Institute (SDPI) conducted key informant interviews with from government, banks and financial institutions and private sector organisations. Together with UNESCAP, SDPI also conducted a two-day national level workshop with high level participants from line ministries and relevant industries to create a platform for discussion on climate change initiatives and sectorial roles in mitigation.

2. Summary of findings

2.1 Identification of the proposed national champion

As part of its analysis, SDPI conducted interviews and meetings with industry specialists to identify a national champion for climate finance in Pakistan. Its findings highlight the substantial efforts that have been expended by the Ministry of Climate Change and the Pakistan Business Council, however, it identifies SBP as the potential national champion based on the central bank's dominant position in this field.

In order to address the adverse impacts of climate change on Pakistan's economy, SBP has taken the lead in promoting green banking across the financial sector. In 2013, SBP proposed a 'Green Banking/Sustainable Banking' unit at the central bank to promote environmentally friendly practices in banking operations. This includes the introduction of Green Banking Guidelines under the Green Banking Unit to encourage commercial banks and other financial institutions to invest in green projects and products such as green marketing and green advisory services.

Paperless banking and green practices at ATMs are promoted and the SBP has partnered with bilateral and multilateral organisations to develop a policy framework and enhance the capacities of commercial banks and development financial institutions in Pakistan.

SBP launched a revisited "Refinancing Scheme for Renewable Energy" in June 2016 in order to meet the gap in energy demand and supply through renewable energy. This financing scheme is divided into two phases, Phase-I targeted at commercial banks and other DFIs and Phase-II for domestic, industrial and commercial consumers. The scheme seeks to promote the better utilisation of alternative energy sources such solar, hydro, wind and biogas to reduce greenhouse gas emissions at the national level. SBP has approved US \$67.7m in funds for 18 renewable energy projects with a cumulative generation capacity of 618 MW. It is currently planning to introduce a similar refinancing facility to finance energy efficiency. It is also in the process of approaching the government and international organisations to work together under the same platform to combat climate change issues in an effective manner⁹.

2.2 Past and on-going external support provided to banks for low carbon, climate resilient development

The International Finance Corporation (IFC) of the World Bank has rendered extensive support to the SBP in formulating the sustainable banking framework. Additionally, SBP became a part of IFC's Sustainable Banking Network – the outcomes of which are the development of the Green Banking Unit and Green Banking Guidelines. IFC also supported SBP in conducting Environmental and Social Risk Management (ESRM) surveys in all

⁹ Ibid., 6.

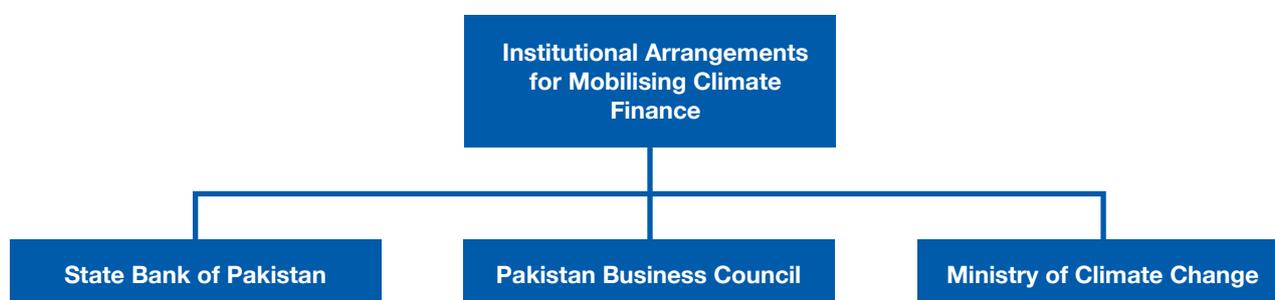
commercial banks and DFIs. Further, SBP has approached GIZ, World Bank and AFD to increase green banking initiatives in the financial ecosystem¹⁰.

2.3 Current and proposed institutional arrangements for mobilising domestic/national private sector climate finance.

The mobilisation of domestic climate finance is dependent upon contributions from various stakeholders from the public, private and banking sectors. The Ministry of Climate Change provides important inputs to climate change related projects or expenditures from the public sector. These expenditures have to be complemented by contributions from the private and banking sectors and the Pakistan Business Council can play a critical role in advocacy and awareness about climate responsive business practices.

The Green Banking Guideline could serve as quasi regulations whereby the commercial banks will incorporate the modalities of green banking in their routine operations. As financiers for various energy, infrastructure and housing projects they could ensure the compliance of Environment and Social Risk Management principles.

Figure 1: Current and proposed institutional arrangements for mobilising domestic/national private sector climate finance in Pakistan



2.4 Existing Low carbon, climate resilient financial products/schemes

As mentioned in the section 2.1 “Refinancing Scheme for Renewable Energy” launched by SBP is one key monetary designed to promote renewable energy resources like hydro, wind & biogas to cutoff CO₂ emissions through concessionary lending. The funds sanctioned under this scheme amount to PKR 7,111 million. Further stats pertaining to that scheme are tabulated below:

Table 1: Funds Required and Sanctioned Under SBP Refinancing Scheme

Total Size (MW)	Technologies	Total Cost (Million Rs)	Required amount of Refinance (Million Rs)	Amount sanctioned (Million Rs)
6.18.1	Solar, Wind & Biomass	122,118.0	59448.0	7111.0

Source: State Bank of Pakistan

Similarly, the JS Bank has participated in a syndicated facility for a ‘Greenfield’ project based on bio-fuel consisting of bagasse and dung cakes, which were being setup under the provisions of the Policy for Development of Renewable Energy for Power Generation, 2006 and the Framework for Power Generation 2013. The company was ideally located around farm land and sugar mills and therefore had an adequate supply of bagasse and cow dung, sufficient to keep the plant operational for 120 days during the crushing season and 60 days in the off-season period. The project’s benefits are manifold. First, the project seeks to use waste from both dairy farms and sugar mills, promoting a cleaner environment. Second, output will be passed on to the consumer grid with little or no transmission losses, thereby reducing the electricity deficit in surrounding areas. Third, this cheaper fuel will be less detrimental than furnace oil based electricity production to the balance of payments.

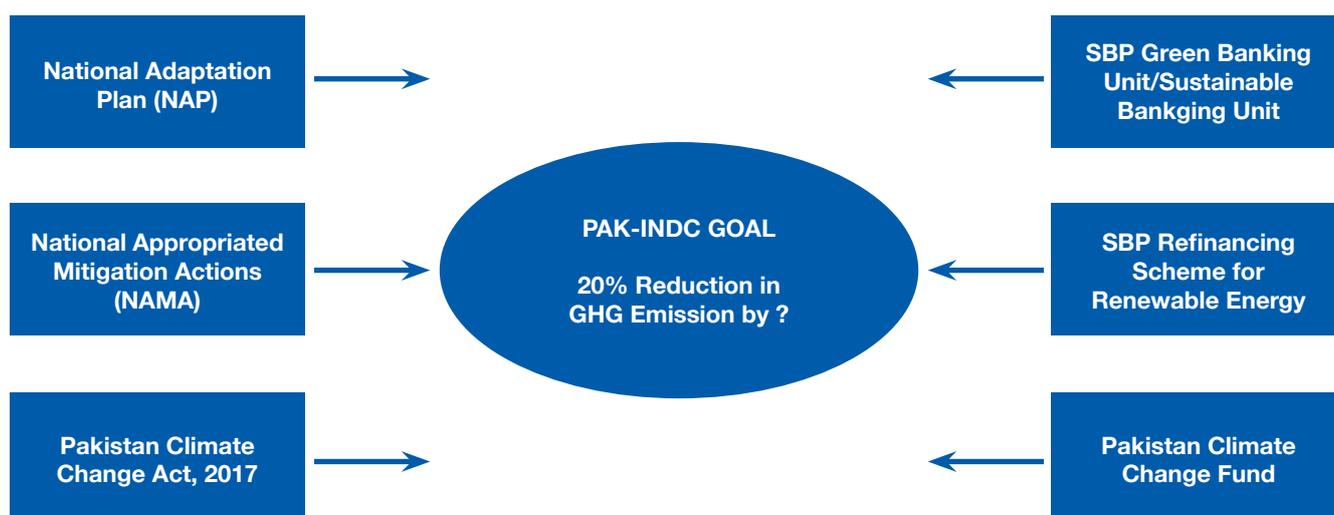
¹⁰ SBP, Annual Report-Statistical Supplement FY 15 <http://www.sbp.org.pk/reports/annual/arFY15/Stats/Eng/Chapter-5.pdf>

JS bank also supports companies like Nizam Energy, the leading solar energy company in Pakistan and it became the first commercial bank in the country to be certified by the World Wide Fund for Nature (WWF Pakistan) for their Green Office Initiative. The aim of this Initiative is to reduce greenhouse gas emissions and to decrease the ecological footprint at the workplace through various measures such as reducing electricity consumption and paper waste.

Table 2: Alignment of Pak-INDC with NAP, NAMA and Other Implementation Mechanisms

Major Goal 20% Reduction in GHG emissions by 2030	
Plan	Activities/Initiatives to Achieve Goal
National Adaptation Plan (NAP)	<p>To improve Water, agriculture and infrastructure: Improving the irrigation system through actions such as lining of canals and irrigation channels.</p> <p>Enhancing water resource management through:</p> <ul style="list-style-type: none"> • Integrated watershed management • Water conservation • Strengthening risk management system for the agriculture sector • Implementing a comprehensive Climate Smart Agriculture program <p>Disaster risk management capacity will be further enhanced through implementation of actions under 'National Disaster Management Plan' that includes strengthening of institutional and legal system for disaster management, preparation of disaster management plans, awareness raising and establishment of a national emergency response mechanism.</p>
National Appropriate Mitigation Actions (NAMA)	<p>Energy Sector: Increase in grid efficiency:</p> <ul style="list-style-type: none"> • Large scale and distributed grid connected solar wind and hydroelectricity • More efficient irrigation motors and pumps (electric) • Replace incandescent bulbs with LEDs, • Efficient space heaters, Improve roof insulation <p>Agriculture Sector: Improve Irrigation and Water Management</p> <ul style="list-style-type: none"> • Manage water in rice cultivation to control release of methane from agricultural soils and introduce low water dependent rice varieties • Implement agro forestry practices through plantation of multipurpose and fast growing tree species , Promote use of green manure • better manure storage and management • Use agricultural and animal wastes to produce biogas and organic fertilizer • Reduce nitrous oxide release from agricultural soils by efficient and targeted use of chemical fertilizers. • Identify and implement ideal cropping patterns to manage soil nitrogen and reduce needs for chemical fertilizers
Other Implementation Mechanism	<p>(a) establishment of organizational structure at the national and sub national levels; (b) use of Clean Development Mechanism (CDM) and other market mechanisms to support climate change activities; (c) capacity building; and (d) financing of climate change regime using national and international resources; (e) SBP's Green Banking Guidelines; (f) SBP's Refinancing Scheme for Renewable Energy; (g) Pakistan Climate Change Act 2017; (h) Pakistan Climate Change Fund</p>

Figure 2: Implementation Mechanism for Achievement of Pak-INDC



2.5 Existing incentives for low carbon, climate resilient development

According to Income Tax Ordinance 2001, Second Schedule Part I (Exemption from Taxable Income), Section 126 (l), “Profits and gains derived by a taxpayer, from an industrial undertaking set up by 31st day of December, 2016 and engaged in the manufacture of plant, machinery, equipment and items with dedicated use (no multiple uses) for generation of renewable energy from sources like solar and wind, for a period of five years beginning from first day of July, 2015.”

There is a zero tax rating on items under serial numbers 108 and 110 of Table 2 of Fifth Schedule of Sales Tax Act, 1990. These items mainly include components and parts of energy savers and equipment that is run on wind or solar power. Similarly, as per serial number 14, 14A, 15 and 15A of Table 3 of Fifth Schedule of STA 1990, added by Finance Act 2017, plant and machinery being used for the generation of renewable energy is exempted from the scope of Act.

3. Additional findings

Climate change is a vital issue that cannot be addressed by a single ministry or institute alone. In Pakistan, the Ministry of Climate Change is the prime agency responsible for accessing and routing climate finance, but individual provinces are also initiating efforts to attract funds, for example, Khyber Pakhtunkhwa is implementing a Green Growth Strategy through the Khyber Pakhtunkhwa Climate Change Policy and Similarly, the Earthquake Reconstruction and Rehabilitation Authority has completed a rain harvesting project in Azad Jammu and Kashmir where 40,000 rain water harvesting systems have been installed.

In tandem, the private and banking sectors are also beginning to contribute to climate change adaptation efforts. The Zarai Taraqiati Bank Limited (ZTBL), for example, has introduced crop loan insurance schemes that provide coverage against adverse climatic and non-climatic shocks and stresses including flooding, drought, hailstorms, frost and insect attacks. The insurance scheme charges premiums at 1.3% (inclusive of all taxes and levies) of loans sanctioned during Rabi and Kharif seasons, with the bank paying the premium for subsistence farmers in exchange for reimbursement by the government on a half-yearly cycle. The bank also maintains a significant lending portfolio for drip irrigation and solar tube wells, contributing to the provision of effective and efficient irrigation systems.

In addition, ZTBL recently completed a soya cultivation project on 100 acres of land in Thatta, Sindh. Due to changing cropping patterns, farmers have a month and a half to sow and harvest soya beans before sowing wheat, giving them an opportunity to enhance the organic content of land. Pakistan’s soil is highly deficient in

organic matter i.e. it contains only 0.5% organic matter compared to an average of 2-3% in other developing countries. Enhancing organic content in the soil reduces the fertiliser cost for wheat production by 15% and water costs by 20%, leading to an overall decrease of 35%. ZTBL paid for the seed, encouraged farmers to cultivate the crop and is now in the process of expanding cultivation to arid regions. It also seeks to launch a dry rice project (associated with raised bed technologies, lower water requirements and reduced fertiliser evaporation) and climate resilient rice seeds. However, the promotion of climate smart agriculture is hindered by lack of capacity in farmers, inadequate service delivery from the Agriculture Extension Department and so on.

4. Overall Summary and Recommendations

GOP has also introduced many environment friendly projects to overcome the adverse effect of climate change. One flagship project in this regard is Green Pakistan Program aimed at extensive tree plantation across the country etc.

In response to the adverse impact of climate change on Pakistan's economy, there has been an increase in climate action by a range of stakeholders including government, the central bank, private commercial banks and the private sector. The enactment of the Pakistan Climate Change Act 2017 is one of the most significant developments, laying the foundation for the Pakistan Climate Change Authority and the Pakistan Climate Change Council to guide strategic vision and fundraising.

Intersections between climate action and the central bank have also been promising, with the establishment of the Green Banking Unit that aims to promote sustainable banking practices in the financial sector, the formulation of the Green Banking Guidelines to encourage private sector investment in green initiatives and the SBP Refinancing Scheme for Renewable Energy in 2016 to promote renewable energy. Commercial banks such as JS and ZTBL have also contributed through investments in sustainable agriculture and transitioning of physical infrastructure to solar power.

Despite this recent progress, challenges continue to exist in advancing mitigation and adaptation initiatives. First, difficulties remain in accessing resources from international and regional financial institutions. Insufficient institutional arrangements, including ambiguous roles and responsibilities of different ministries, have led to unsuccessful efforts by multiple stakeholders to attract finances from the Adaptation Fund. In the last two years, the MOCC has tried to access resources from the Green Climate Fund (GCF), however of the 48 institutions that can lend for the GCF, only 14 have a presence in Pakistan, with minimal accreditation for climate-related development programmes between them. Second, where investments in green initiatives were made by the government or the banking sector, they were made inadvertently and without an assessment of impact or clear focus on mitigation or adaptation (e.g. hydropower). Third, due to insufficient technical processes and inappropriate systems to identify and record climate finance expenditures, it is often not clear that what proportion of a project cost can be attributed to climate response.

In order to address these issues, a strengthening of data and analytical capacity in the Ministry of Climate Change and Ministry of Finance is required and work related to oversight and accountability needs to be pursued with the parliamentary committees on climate change and environment. There is also a need to establish linkages between climate change and the banking industry and develop a deeper understanding of whether a higher proportion of expenditure is required for adaptation or mitigation. Thirdly, there is need to develop technical tools to estimate GHG emissions, and not only CO₂. In order to promote climate finance and green or sustainable banking, commercial banks should create a dedicated section in their banks, hiring a minimum of three people to establish a green financing portfolio including green product development (e.g. green advisory service, green marketing). Lastly, in order to generate a holistic assessment of the issues that pertain to this sector, it is critical to identify the contribution of the banking sector (both good and bad) to climate change. Ministry of Finance can help because they deal with public financial management, they are useful conduits for this.

Annex A

List of stakeholders interviewed (in chronological order)

Date	Organization	Names and Designation	Organization Type
24-04-2017	Ministry of Climate Change, Islamabad	Mr. Muhammad Fawad Hayat, Director Climate Finance Unit	Government
25-04-2017	Zarai Taraqati Bank Limited (ZTBL)	Mr. Farhat Karim Hashmi, Executive Vice President, Planning, Research and Technology Division(PRTD)	Government bank
25-04-2017	State Bank of Pakistan(SBP)	Mr. Farrukh Abbas Mirza	Government Bank
16-05-2017	Leadership for Environment and Development (LEAD) Pakistan	Ms. Hina Lotia, Director Programmes at Senior Management Department	Non-Governmental Organization(NGO), Islamabad
26-04-2017	UNDP Pakistan	Mr. Asad Abbas Maken	Development Agency
18-04-2017	Asian Development Bank	Dr. Qamar uz Zaman Chaudhry	Development Financial Institutions

Annex B

Assessment of potential national champions

Type	Organization	Level and Rationale
Central Bank	State Bank of Pakistan	SBP takes great initiatives about climate change financing in Pakistan. It proposed Green Banking Unit/ Sustainable Banking Unit in 2013 to promote green and environment friendly practices in banking operations. Under this banking unit it proposed Green Banking Guidelines in which they encourage Commercial and Development Finance Institutions to invest in green products. It has also issued "Refinancing Scheme for Renewable Energy" in 2016, in context to meet the growing electricity demand through renewable energy. Under this financing scheme, it provides concessionary financing for renewable energy projects. It is also an active and enthusiastic member of IFC sustainable Banking Network (SBN). Therefore SBP have a potential to become a champion for climate change financing in Pakistan.

Government Institute	Ministry of Climate Change, Pakistan	MOCC is an active, strong and responsible government institute and taking various initiatives to combat climate change issues in Pakistan. Recently, in 2017, National Assembly of Pakistan passed the Act “Pakistan Climate Change Act”. Under this Act, they established “Pakistan Climate Change Council” which is responsible to supervise and coordinate with other relevant ministries. Under this Act, they established “Pakistan Climate Change Authority” with aims to formulating and planning the climate change policies at national level. Under the Climate Change Act, they are in a process of development of Pakistan Climate Change Fund which could be a major stakeholder and most appropriate programme for the fund-raising from domestic and international levels. The fund would mobilize resources to reduce adverse effects of climate change on the economy as well as provide financial support in climate change to mitigation and adaptation initiatives in the country. MOCC is also working with other ministries to resolve the issues of climate change in Pakistan.
Private Institute	Pakistan Business Council (PBC)	PBC has established “Centre of Excellence in Responsive Business” to augment the capacity building of private businesses and sustainable development in Pakistan. It has also identified the Goal 7 from SDGs “Decompiling Growth for Environmental Impact” and 22 targets in which they have contribute and take benefit from them. PBC can play a dominant role in climate change mitigation and adaptation perspectives. It is also working on the climate change research and provides guidance to private sectors in policy making process. PBC may be the champion for the private sectors by investing in different climate related projects at the country and international level.

Annex C

List of external support provided to banks (and impacts if any)

Organisation	Dates	Activity	Target beneficiaries and Impact
International Finance Corporation, World Bank	2012	Support to State Bank of Pakistan by making it part of Sustainable Banking Network, carrying out Environment and Social Risk Management Survey and setting up Green Banking Unit.	State Bank of Pakistan. Outcome of this support is formation of Green Banking Guidelines.

Annex D

List of existing financial products/schemes for low-carbon, climate resilient development (and outcomes and impacts if any)

Organisation	Type of product	Date Introduced	Outcome/Impacts
State Bank of Pakistan	SBP Refinancing Scheme for Renewable Energy	December 2016	By using renewable energy resources it is beneficial in reducing GHG emissions.

JS Bank	Greenfield Project	2016	<p>It would use the waste from both dairy farms and sugar mills, which will promote a cleaner environment.</p> <p>The output would be passed on to the consumer grid, with little or no transmission losses, thereby reducing the electricity deficit in the surrounding areas.</p> <p>This cheaper fuel would not weigh in on the balance of payments unlike furnace oil based electricity production</p>
	USAID Clean Energy Project	-	It is responsible and environmentally friendly manner by allowing small scale energy projects access to long term rupee financing through the Bank. This also encourages private investment in clean energy.

Annex E

List of Existing incentives for low-carbon and climate resilient development (and outcomes and impacts if any)

Incentive	Mechanism	Administrative Level	Outcome/Impacts
Exemption from Income Tax	Section 126 (l) of Second Schedule (Part I) of Income Tax Ordinance 2001. Under this section income generated by an industrial undertaking engaged in the manufacture of plant, machinery, equipment and items with dedicated use (no multiple uses) for generation of renewable energy from sources like solar and wind. This exemption has been given for five years starting from 1st July 2015.	Federal Board of Revenue - National	To gauge the outcomes/impacts of this incentive refer to Table E below. It contains the data on new power plants which started operations since 2015. It can be seen that there have been considerable renewable energy based additions (Wind and Solar) in the national grid since then.
Zero Tax Rate	Under Serial numbers 108 and 110 of Table 2 of Fifth Schedule of Sales Tax Act, 1990, components and parts of energy savers and such equipment which run on wind, solar or hydel energy have been kept in zero tax regime.	Federal Board of Revenue - National	-
Exemption from scope of Sales Tax Act 1990	According to serial number 14, 14A, 15 and 15A of Table 3 of Fifth Schedule of STA 1990, added by Finance Act 2017, plant and machinery being used for generation of renewable energy is exempted from the scope of Act.	Federal Board of Revenue - National	-

Table E: List of Power Plants Started Operating Since 2015

2015			2016			2017		
Plant Names	Fule Type	Installed Capacity (MW)	Plant Names	Fule Type	Installed Capacity (MW)	Plant Names	Fule Type	Installed Capacity (MW)
RYKML	Bagasse	30	APOLO SOLAR	Solar	100	Fatima	Coal/ Bagasse	120
FWEL-I	Wind	50	Best Green Solar	Solar	100	Hamza	Bagasse	15
QUAID AZAM	Solar	100	Crest Energy Solar	Solar	100	Bhiki	Gas	760
NANDIPUR	Furnance Oil	425	Younus	Wind	50	Dawood Wind	Wind	50
SAPPHIRE	Wind	50	Metro	Wind	50	Sachal Wind	Wind	50
CHINIOT	Bagasse	62	Tapal	Wind	30	TOTAL		995
TOTAL		717	Master	Wind	50			
			Tenaga	Wind	50			
			Gul Ahmed	Wind	50			
			Chashnupp-III	Nuclear	340			
			TOTAL		919			

Source: Pakistan Economy Survey (2016-17) – Chapter 14: Energy