

# Green Financial System for Kazakhstan

*Task A5: Assessment of the appetite and conditions for  
international financial investors to invest in Kazakhstan's  
Green Economy*

International, Regional and National Investment Flows

Final Report

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# 1. Introduction

## 1.1 Definition of Green Investment

Green investment can be defined in various ways. In its narrowest meaning, it can mean renewable or clean energy investments. For example, the data of Bloomberg New Energy Finance covers clean energy sector broadly, but no other sectors. A broader definition would be climate finance, such as defined by Climate Policy Initiative, including all investments in climate change mitigation or adaptation activities. In its broadest sense, green finance could mean all green infrastructure, including also other environmental benefits, including but not limited to climate change.

In the mapping of international financing flows we have chosen to use climate finance, as defined by the Climate Policy Initiative, as an approximation of green financing flows. This includes investments aiming at climate change mitigation or adaptation. A detailed list of sectors covered is provided in Table 1 below.

The term climate finance here refers to all investments, public and private, and should not be mixed with the definition of climate finance in the UNFCCC context, which refers to the so-called USD 100bn per annum pledge, which the developed countries have promised to mobilise for developing countries by 2020.

When mapping national level financing flows the availability of data was broader, including also other financing flows, in addition to climate related investments. Therefore, use of such data was chosen. Unfortunately, there is no fully comparable data available covering both global and local level financing flows. Therefore, direct comparisons between these data should be avoided.

## 1.2 Data sources

The data used in this report are derived from the following main sources (for more details see the List of References in the end of the document):

- International flows:
  - o Climate Policy Initiative's climate finance mapping work 2010-2016;
  - o Brookings Institution's work on future climate finance needs, especially the recent report "Financing Low Carbon, Climate Resilient Infrastructure: The Role of Climate Finance and Green Financial Systems" (Brookings Institution, September 2016);
  - o Climate bonds data is mainly based on the work done by Climate Bonds Initiative and HSBC Bank; and
  - o Cross-checks are made against BNEF and FS-UNEP investment data in clean energy sector
- Local flows
  - o "Environmental Protection and Sustainable Development of Kazakhstan", the Statistical Committee of the Republic of Kazakhstan, Astana 2016
  - o Strategic Plan of the Ministry of Energy of the Republic of Kazakhstan for 2014-2018

- Strategic Plan of the Ministry of Investments and Development of the Republic of Kazakhstan for 2014-2018
- Indicators of “a Green Economy of the Republic of Kazakhstan”. Statistical Committee of the Republic of Kazakhstan

Climate Policy Initiative (CPI) has one of the most comprehensive mapping of global climate finance and is widely referred to in the literature. For example, the UNFCCC has made its climate finance calculations based on CPI data. In addition, Brookings Institution in their scenario work on global low-carbon climate-resilient infrastructure needs also uses the CPI climate finance data as their starting point. Therefore, CPI data is considered relevant also in the context of this study, and forms the basis of the part of the report dealing with international investment flows.

CPI has collected and reported this information from 2009 until 2014. However, there are three challenges in the comparability of data between individual years. Firstly, the two first studies carried out in 2011 and 2012 report average two-year figures only, i.e. 2009-10 and 2010-11 annual averages, respectively. Secondly, the scope and coverage of CPI data has improved throughout the years. Especially the study covering 2009-2010 average data (CPI 2010) is more of an initial pilot study, and the comparability with sub-sequent years is questionable. Finally, the granularity of the data has increased year by year. Therefore, the data in earlier studies only includes more aggregate figures, which can be seen especially in sectoral and geographical distribution data below (Table 1 and Table 4, respectively). Data shown in this report therefore covers a five-year period 2010-14, where 2010-11 figures are shown as two-year average, and 2012-14 figures are annual figures.

## 2. Climate finance flows

### 2.1 International climate finance 2010-2014

This section summarises the available and comparable data on international climate finance flows, i.e. 2010-14. CPI has revised the figures 2013-14 in September 2016 to inform UNFCCC ahead of its second Biennial Assessment and Overview of Climate Finance Flows in October 2016 (Climate Policy Initiative 2016). For years 2013-14 these more recent updated figures are used instead of those from the original publications (Climate Policy Initiative 2014 & 2015).

#### **Total volume and sectors of global climate finance**

The total global volume of climate finance amounted to **around USD 360bn in the beginning of the decade, dropping to USD 342bn in 2013, before increasing to USD 392bn in 2014.**

As expected, the bulk of this investment was renewable energy, totalling USD 264bn (73% of total) in 2012, USD 244bn (71%) in 2013 and USD 284bn (72%) in 2014. In 2010-11 the share of renewable energy of total climate finance was 90%, but this may have something to do with low coverage of adaptation finance data in CPI's first mapping studies (note also the low level of

adaptation finance compared with later years). Energy efficiency investment totalled USD 32bn in 2012, USD 31bn in 2013, but decreased to USD 26bn in 2014. Other mitigation investments were USD 40bn in 2012, USD 20bn in 2013 and USD 28bn in 2014. Adaptation was flat at USD 27bn in 2013 and 2014, after increasing from 14bn in 2010-11 and USD 22bn in 2012. As mentioned, the strong increase from 2011 to 2012 may be partly explained by broader scope and increased coverage of adaptation finance data collection by CPI in the 2012 data. A more detailed breakdown is shown in the Table 1 below.

**Table 1. Global climate finance Breakdown in 2010-2014 according to sector (CPI 2012, 2013, 2016, \$bn).**

	Avg 2010-11	2012	2013	2014
<b>TOTAL</b>	<b>364</b>	<b>359</b>	<b>342</b>	<b>392</b>
<b>Mitigation</b>	<b>350</b>	<b>337</b>	<b>311</b>	<b>360</b>
Renewable Energy Generation	330	265	244	284
Energy Efficiency	-	32	31	26
Sustainable Transport	-	-	17	22
Agriculture, Forestry and Land-use	-	-	6	4
Non-Energy GHG	-	-	7	0.2
Low-Carbon Technologies	-	-	0.3	4
Transmission and Distribution	-	-	1	3
Waste and Waste-Water	-	-	1	1
Policies, Budget Support and Capacity Building	-	-	0.4	0.1
Other & Cross-Sectoral	20	40	4	16
<b>Adaptation</b>	<b>14</b>	<b>22</b>	<b>27</b>	<b>27</b>
Waste and Waste-Water	3	10	15	15
Agriculture, Forestry and Land-use	4	3	2	4
Infrastructure, Energy and Other Built Environn	2	2	3	2
Disaster risk management	1	3	2	2
Coastal Protection	-	2	0.5	1
Manufacturing, Industry and Trade	-	-	0.5	0.3
Policies, budget support and capacity building	1	0.2	0.7	0.9
Other & Cross-Sectoral	3	4	2	2

### Sources of finance

The share of private vs. public climate finance has remained at roughly the same level in recent years, around 60% being private finance. In 2012, USD 268 out of USD 364bn was private finance, in 2013 the amount of private finance was considerably lower, USD 199bn (58%) out of USD 342bn. In 2014 the amount of private finance in climate mitigation and adaptation was USD 241bn (61% of total), and share of public funding was USD 151 (39% of total). A detailed breakdown of sources of financing is shown in Table 2. Specialised project developers were the main source of private funding with approximately USD 90bn, followed by corporate actors with approximately USD 50bn invested in 2013 and 2014 on average. Interestingly, households were an important source of private finance increasing to USD 40bn in both 2013 and 2014, whereas the role of private equity funds and institutional investors was negligible at around USD 3bn only. This implies a remarkable potential for growth of investments by institutional investors especially in the field of climate finance.

**Table 2. Global climate finance breakdown in 2010-2014, according to sources of finance (CPI 2012, 2013, 2016, \$bn).**

	Avg 2010-11	2012	2013	2014
<b>TOTAL</b>	<b>364</b>	<b>359</b>	<b>342</b>	<b>392</b>
<b>Private</b>	<b>268</b>	<b>223</b>	<b>199</b>	<b>241</b>
Project Developers	122	102	88	92
Corporate Actors	75	66	47	59
Households	32	33	40	41
Commercial Financing Institutions	36	21	21	46
VC, PE and Infrastructure Funds	2	1	2	2
Institutional Investors	0.7	0.4	1	1
<b>Public</b>	<b>96</b>	<b>136</b>	<b>143</b>	<b>151</b>
National DFIs	43	69	70	64
Multilateral DFIs	21	38	44	48
Bilateral DFIs	11	15	15	22
Governments and Aid Agencies	19	12	12	14
Climate Funds	1	2	2	2

### Type of finance

In terms of instrument types, balance sheet finance dominates in the climate finance sector with USD 164bn (48% of the total) invested as balance sheet finance in 2013 and USD 177bn (45% of total) in 2014. On the other hand, these are clearly at a lower level than in the beginning of decade when balance sheet finance was at around USD 200bn per year. Commercial project-level debt was the second most important type of finance, increasing steeply from USD 70-75bn (20-22% of total) in 2012-2013 to USD 125bn (32% of total) in 2014. At the same time, share of concessional loans decreased dramatically from USD 74bn (22% of total) in 2013 to USD 48bn (12% of total) in 2014.

**Table 3. Global climate finance breakdown in 2010-2014, according to types of finance (CPI 2012, 2013, 2016, \$bn).**

	Avg 2010-11	2012	2013	2014
<b>TOTAL</b>	<b>364</b>	<b>359</b>	<b>342</b>	<b>392</b>
Balance Sheet	214	197	164	177
Project Level Market Rate Debt	57	72	74	125
Low-Cost Debt	54	68	74	48
Project Level Equity	22	11	17	27
Grants	18	11	13	13

### Regional split

There was comparable regional data available only for years 2013 and 2014. Out of the total, USD 11bn in 2013 and USD 12bn in 2014 was invested in the climate sector in Central Asia and Eastern Europe. The region's share of total global climate finance is therefore only just above 3%. Even if the total investment increased by USD 1bn (around 10%) in that period, the share of the global total actually decreased slightly in 2014 due to a stronger increase in global investment (about 15% increase from 2013). The regional split of climate finance in 2013 and 2014, including Central Asia and Eastern Europe, is shown in Table 4.

**Table 4 Global climate finance breakdown in 2010-2014 according to regions (CPI 2012, 2013, 2016, \$bn).**

	Avg 2010-11	2012	2013	2014
<b>TOTAL</b>	<b>364</b>	<b>359</b>	<b>342</b>	<b>392</b>
<i>Central Asia and Eastern Europe</i>	-	-	<b>11</b>	<b>12</b>
East Asia and Pacific, incl. China	-	104	95	118
Western Europe	-	115	94	98
North America	-	32	38	44
Japan Korea and Israel	-	-	35	40
Latin America and Caribbean	-	-	24	27
South Asia	-	-	13	17
Sub-Saharan Africa	-	-	13	10
Transregional	-	-	10	13
Middle East and North Africa	-	-	5	9
Other Oceania	-	-	5	3
Other / Unspecified	364	108	-	-

### Longer term investment trends and trends in 2015-2016

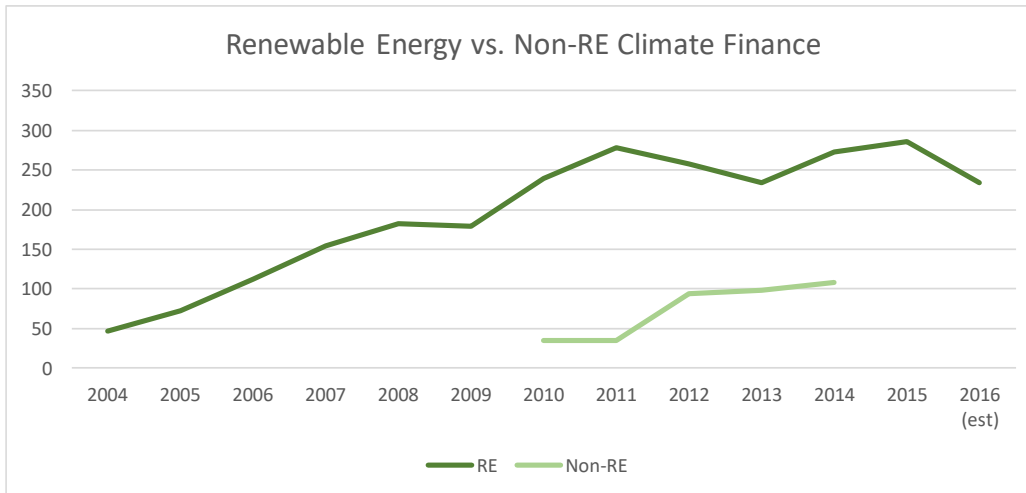
There was no international comparable data available for 2015 and 2016. However, since the renewable energy dominates climate finance with more than 70% share of the total investment each year, the total climate finance flows probably follow the trends in renewable energy sector. According to FS-UNEP the global clean energy investment increased from USD 46,6bn in 2004 to a record of USD 278,5bn in 2011. After 2011 the renewable energy investments dipped in 2012 and 2013 before reaching a new record of USD 285,9bn in 2015. (FS-UNEP 2016) However, the preliminary figures show that in 2016 the total investment in renewable energy dropped dramatically. For example, BNEF estimates that this drop was at least 18% compared to 2015. (Bloomberg New Energy Finance 2017) Official figures for 2016 are not yet available, but assuming a 18% drop in FS-UNEP data, it is fair to assume that global climate finance exceeded USD 400bn in 2015 but in 2016 dropped again, possibly below the levels observed in 2014.

Part of the drop in the investment volume in renewable energy can be explained by decreasing investment costs of renewable energy, especially solar PV, but also other factors contributed to this decrease, such as slow-down in China. In terms of gigawatts, renewable energy investments increased in 2016 from the previous year as well, led by solar PV, although for example the installation volume of wind power decreased slightly from 2015.

It is also interesting to see the development of other than renewable energy (Non-RE) climate finance. As can be seen in picture 1, during 2010-2014 the amount of Non-RE climate finance has increased steadily, despite a fall in renewable energy (RE) climate finance in the period of 2011-2013. Although the increase from 2011 to 2012 may be partly explained by broader scope and better coverage of CPI data, it can still be said that other climate finance has been less volatile and slightly on an increasing trend. Picture 1 shows the development of renewable energy investment between 2004-2016 (year 2016 being a preliminary estimate) and Non-RE climate finance separately between 2010-2014.



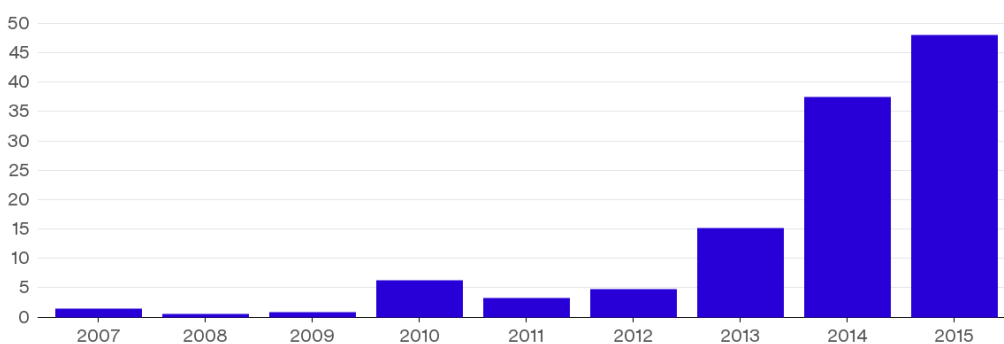
**Picture 1. Long-term renewable energy finance 2004-2016\* vs. Non-RE climate finance 2010-2014. (FS-UNEP 2016, CPI 2012, 2013, 2016, \$bn)**



## 2.2 Green bonds

Climate bonds and other green bonds are a rather new phenomenon in the capital market. In this section we focus on labelled climate bonds as reported by Bloomberg New Energy Finance (BNEF) and HSBC & Climate Bonds Initiative (HSBC & CBI). According to Bloomberg New Energy Finance (BNEF 2016), the issuance of climate bonds was negligible during the last decade but has picked up remarkably since then (Picture 2).

**Picture 2. Issuance of labelled climate bonds 2007-2015 (Bloomberg New Energy Finance 2016, \$bn).**

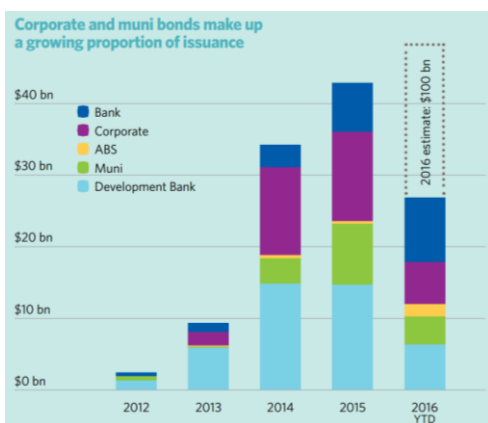


Looking at the issuers of climate bonds, it can be seen that development banks have played an important role in the initial stage of the climate bond market, but on the other hand it has been quickly picked up by other capital market players. After development banks, corporates were quick to follow the trend, and soon after that commercial banks also municipalities have entered the climate bonds market, which today is relatively versatile in terms of issuer types. Picture 3 describes the share of issuers in the climate bonds market. Note that there seems to be slight difference between the figures published by BNEF and HSBC & CBI, probably due to data

coverage and scope, but these two data sets clearly paint the same picture and annual figures correspond with each other, BNEF figures being systematically slightly higher than the CBI/HSBC figures overall.

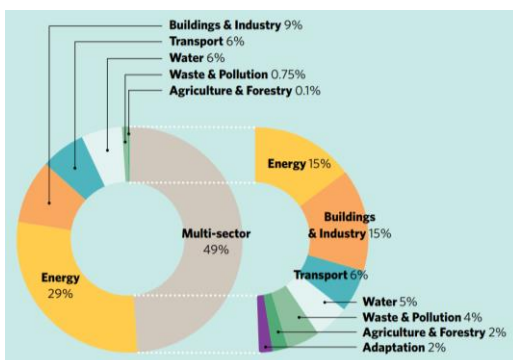
Although the data on climate bonds may not be fully comparable with the climate finance data above, it is interesting to see that the share of climate bonds in relation to total climate finance seems to have increased rapidly in the early years of this decade. For example, in 2013 climate bonds amounted to around 3% of climate finance only, whereas in 2014 the share seems to be closer to 10%. Comparing the Picture 3 and Table 3, it is probable that most of the climate bonds have been balance sheet finance. Although it is not possible to analyse in more detail, at least bulk of the corporate and municipal climate bonds in Picture 3 are most likely shown as balance sheet finance in Table 3, whereas a considerable share of the development and commercial bank climate bonds could have ended up to project level concessional and market-rate debt (as shown in Table 3)

**Picture 3. Trends in issuer types in labelled climate bonds market. (HSBC & Climate Bonds Initiative 2016.)**



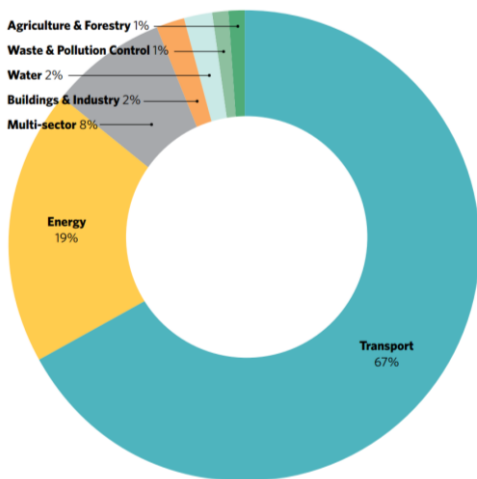
Regarding the use of proceeds of labelled climate bonds, the largest share is made up of multi-sector bonds, which account for roughly half of the climate bonds market. Energy-related climate bonds represent 29% of the total labelled climate bonds market, followed by buildings and industry, transport and water sectors (Picture 4).

**Picture 4. Use of proceeds of labelled climate bonds, share of sectors. (HSBC & Climate Bonds Initiative 2016.)**



Not all bonds issued to finance climate-related assets are specifically labelled as climate bonds. HSBC and the Climate Bonds Initiative have estimated the total amount of climate-related bonds outstanding, no matter whether they were explicitly labelled as climate bonds. From this perspective, the picture is very different. The total amount of outstanding climate related bonds is estimated at USD 694bn in 2016, which is about six times of the value of labelled climate bonds outstanding (roughly USD 118bn). Note that this cumulative figure of all outstanding climate related bonds should not be mixed with annual issuance of climate bonds, which is remarkably lower and therefore better in line with the CPI figures presented earlier in this report. Also, the split between different sector looks very different from this bigger picture. As shown in Picture 5, the total climate-related bonds market is dominated by the transport sector with two-thirds of climate-related bonds outstanding. The transport sector is followed by the energy sector and multi-sector bonds (19% and 8% of total, respectively).

**Picture 5. Sectoral distribution of all climate related bonds outstanding in 2016. (HSBC & Climate Bonds Initiative 2016.)**

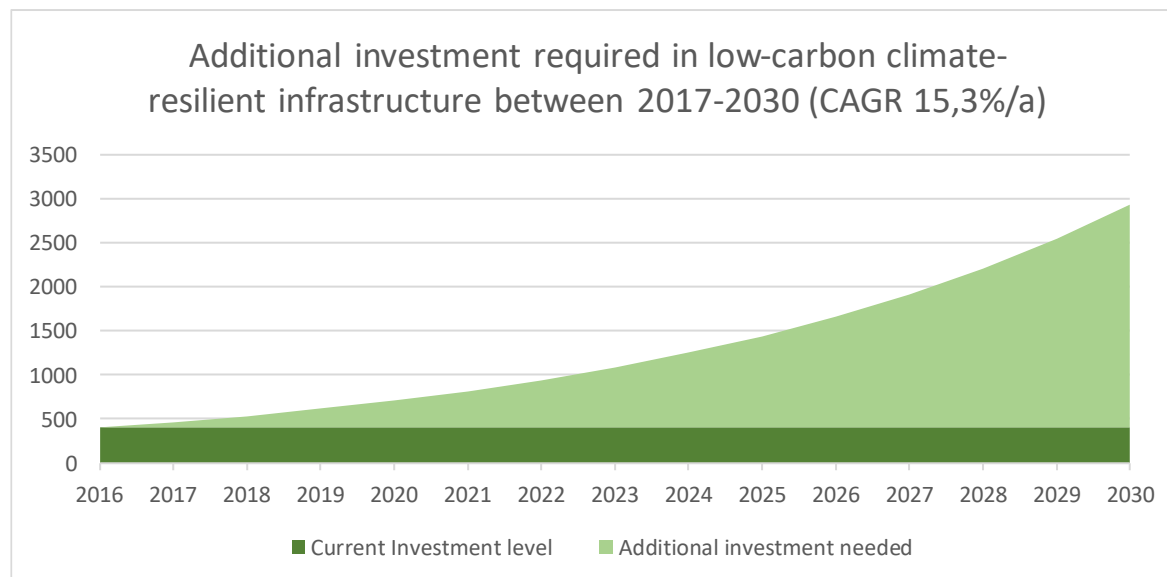


### 2.3 Looking ahead: global investment needs in low-carbon sectors

As indicated in the previous section, the global investment volumes in climate sector have oscillated roughly around USD 350-400bn in the past four years. Brookings Institution has made an attempt to estimate the needed *additional* investment needs in low-carbon infrastructure until 2030 to stay on track to limit the global warming below two degrees. (Brookings Institution 2016)

According to Brookings Institution, the *additional* cumulative investment need in low-carbon climate-resilient infrastructure until 2030 is USD 13,5 trillion, i.e. at least USD 900bn on average annually until 2030 from now on in addition to the current investment level. Brookings figures are based on CPI data, and these figures should be comparable. Assuming an annual global climate sector investment of around USD 400bn in recent years (as shown above), the compound average growth rate (CAGR) in global climate finance should be about 15-16% annually from now until 2030 in order to meet the cumulative *additional* investment need of USD 13,5 trillion and to stay on track to meet the <2 degrees global warming target as agreed in Paris in 2015 (Picture 6).

**Picture 6. Additional investment needs in low-carbon climate-resilient infrastructure by 2030, \$bn. (GreenStream, based on Brookings Institution 2016.)**



## 2.4 National level green investment flows

This section summarises the available data on national green investment flows in the 2013-16 period. There are three main green investment flows in Kazakhstan, namely foreign investments by multilateral development banks and donor organisations, assignments from the national budget and investments by public and private companies for environmental protection. The second flow is based on financing from the national budget as well as specific budget programmes implemented by the Ministry of Energy and the Ministry of Investments and Development. The figures of the flows for environmental protection and green investments are based on data collected, processed and published by the national Statistical Committee.

**Table 5. Reported environmental and green investment flows in Kazakhstan, USD mln**

Type of investment flow	Source of information	Years, USD mln			
		2013	2014	2015	2016
<b>Total public and private investments in environmental protection</b>	<b>Statistical Committee</b>	<b>509,43</b>	<b>577,55</b>	<b>373,80</b>	-
Total domestic public and private investments in environmental protection	Statistical Committee	343,72	344,89	238,22	-
Total foreign investments in environmental protection	Statistical Committee	165,71	232,66	135,58	-
National Budget programme for the	Ministry of Energy	-	-	0,27	0,47

implementation of the Green Economy Concept					
National Budget programme for climate mitigation measures	Ministry of Energy	-	1,00	0,62	0,47
National Budget programme for subsidizing purchases of renewable energy installations from domestic manufacturers	Ministry of Energy	-	0,06	-	0,07
National Budget programme for energy efficiency	Ministry of Investments and Development	0.76	0,97	1,17	1,23

The Statistical Committee of Kazakhstan presents the data on total green investments as an indicator of the transition to “a green economy” and includes investments in the following sectors: agriculture, forestry and fishery; industry; mining industry; manufacturing; electricity, gas and power supply, conditioning; drinking water supply and wastewater treatment; construction; wholesale and retail trade, car maintenance and repair; transport and logistics; food and hotel industries; information and communication; financial and insurance services; real estate services; consultancy, science and engineering; management and auxiliary services; public administration, defence, social welfare; education; healthcare and social services; art, entertainment and leisure; other services.<sup>1</sup> However, those data are not indicative as they are based on the statistical reporting on capital investments for environmental protection by public and private companies. The capital investments for environmental protection are defined by the Order of the Statistical Committee No. 288 of 30 November 2015 as investments for measures on construction and reconstruction of industrial and municipal wastewater treatment installations, improvement of quality of surface water sources, land protection, establishment of natural protected areas and others.<sup>2</sup> Therefore, this reporting form does not cover investments in climate mitigation, renewables and energy efficiency, and it is impossible to get such data from this reporting. Also, the Statistical Agency provides the breakdown of the investments in environmental protection for the traditional sectors of Kazakhstan’s economy, including mining, wholesale and retail trade, agriculture, fishery and forestry, hotel services, education, public health, etc. Thus, it does not provide separate green investment flows out of the total capital investments for environmental protection and it means that not all investments classified as such by the Statistical Agency are actually green investments.

Relevant for this report on green finance are the data on budgetary assignments for specific programmes by competent ministries, namely the Ministry of Energy (climate mitigation and

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<sup>1</sup> See the website of the Statistical Committee, at [http://www.stat.gov.kz/faces/wcnav\\_externalId/Ind\\_Green\\_Economy?\\_afzLoop=15738596545955043#%40%3F\\_afzLoop%3D15738596545955043%26\\_adf.ctrl-state%3D2h9umorze\\_125](http://www.stat.gov.kz/faces/wcnav_externalId/Ind_Green_Economy?_afzLoop=15738596545955043#%40%3F_afzLoop%3D15738596545955043%26_adf.ctrl-state%3D2h9umorze_125).

<sup>2</sup> See the Information and Legal System of Legal and Normative Acts of the Republic of Kazakhstan “Adilet” at <http://adilet.zan.kz/rus/docs/V1600014570#z8>.

renewables) and the Ministry for Investments and Development (energy efficiency). Their current strategic plans include a number of budget programmes dealing with climate mitigation, renewables and energy efficiency. However, the amounts of those green flows are still very limited and significant parts of those budgetary assignments are earmarked for the development and implementation of legal frameworks and regulatory tools such as the national carbon registry, the GHG inventory for the ETS, or the State Energy Registry. The only direct investments for the transition to “a green economy” from the national budget are provided by the budget programme of the Ministry of Energy for subsidizing purchases of renewable energy installations from domestic manufacturers and partially by the budget programme of the Ministry of Energy for the implementation of the Concept of transition to “a Green economy”, including for the implementation of 3 pilot projects on solar energy. Also, a budget programme of the Ministry for Investments and Development after 3 years of financing the development of a legal framework and the State Energy Registry has been switched since 2016 to financing of sectoral measures on energy efficiency in industry, energy, municipal services and transport sectors.

It should be noted that in Kazakhstan the role of local governments in green finance remains very limited and most of the local budgets do not contain any funds for green investments. Also, currently there are no specified line items for climate adaptation either in the national or in the local budgets. The absence of policy and legal frameworks in Kazakhstan for climate change adaptation does not allow to identify public programmes with appropriate objectives. Thus, there is no accounting of domestic financial flows for climate change adaptation in Kazakhstan. Even at the level of national companies their data on green investments are not easily available. For instance, the annual reports of the Samruk-Energo company contain only aggregated data on investments in coal-fired, gas-fired and renewable power generation as well as in energy efficiency.<sup>3</sup>

Currently major green investment flows are coming to Kazakhstan through international financial institutions and co-financing of relevant projects by project developers, commercial banks, domestic development funds. It concerns the projects financed by the IFIs with established objectives on green investments such as the Climate Investment Funds, European Bank for Reconstruction and Development, European Investment Bank. Additional funding is provided to such projects by IFIs without explicitly expressed priorities on green investments, e.g. the Asian Infrastructure Investment Bank.

**Table 6. Select Green projects by international financial institutions in 2013-2016, USD mln**

Source of funding	Implemented	Type of project	Status	Amount, USD mln
Clean Technology Fund	EBRD	Energy efficiency in district heating	Approved in October 2014	34,0
	EBRD	Renewable and energy efficiency projects by KAZREF	Approved in October 2015	29,5
	EBRD	Waste-to-energy projects	Approved in December 2012	22,4

<sup>3</sup> See the web site of the Samruk-Energo at <http://www.samruk-energy.kz/ru/shareholder/annual-reports>.

	EBRD	Yereymentau wind power plant	Approved in November 2014	20,7
	EBRD	energy efficiency in rail transport	Approved in November 2013	1,0
	IFC	Advisory services for investments in renewables	Approved in June 2014	1,2
<i>Subtotal CTF</i>				<i>108,8</i>
European Investment Bank	KazAgro	Climate change adaptation projects in the agri-food sector	Approved in July 2013	158,9
	Damu Fund	Green projects by small and medium-sized enterprises	Contract signed in November 2016	211,9
<i>Subtotal EIB</i>				<i>370,8</i>
Global Environmental Facility	UNDP	City of Almaty Sustainable Transport	Project started in November 2011	4,9
	UNDP	Development of Kazakhstan's National Communication to the UNFCCC and Biennial Report	Project started in 2014	0,9
	UNDP	Nationally Appropriate Mitigation Actions for Low-carbon Urban Development in Kazakhstan	Project started in 2015	5,9
<i>Subtotal GEF</i>				<i>11,7</i>
European Bank for Reconstruction and Development		Renewable energy projects and modernization and strengthening the electricity grid to integrate renewables	Approved by Board in 2016	211,9
		Burnoye Solar Plant Extension	Passed concept review in 2016	50,0
		Kulan Solar Power Plant	Approved by Board in 2016	24,0
		Gulshat Solar Power Plant	Concept reviewed in 2016	30,0
		Installation of bulk heat meters in multi-flat residential buildings (energy efficiency)	Approved by Board in 2016	33,4
		Natural gas supply infrastructure construction and connection for the population of the City of Taldykorgan (climate mitigation)	Concept passed review in 2016	13,8
		Modernisation of street lighting infrastructure for selected cities in Kazakhstan (energy efficiency)	Approved in July 2016	53,0
		Completion of construction and grid connection of the 11MW cogeneration gas-engine based power plant in the City of Atyrau (energy efficiency)	Approved in 2015 Disbursing	5,9

		Burnoye solar power plant	2015 Repaying	74,2
		District heating of the City of Aktobe (energy efficiency)	Signed in 2014	12,3
		Solid Waste Modernisation Framework (waste-to-energy)	Signed in 2014	158,9
		Refurbishment of a cement plant in the City of Shymkent (energy efficiency and climate mitigation)	Approved in 2014	21,2
		Electricity distribution in the Kyzylorda region (energy efficiency and climate mitigation)	Disbursing	19,1
		Rehabilitation of tram public transport through modernisation of the tram fleet and selected tram infrastructure in the City of Pavlodar (energy efficiency)	Signed in 2014	16,9
		Rehabilitation and upgrading the District Heating infrastructure in the City of Semey (energy efficiency)	Signed in 2014	10,3
		Yereymentau wind power plant	Signed in 2014	62,7
		Acquisition of new compressed natural gas ("CNG") buses in the City of Kyzylorda	Signed in 2013	18,8
		Modernization of generating assets as well as upgrade of the existing electricity distribution networks (energy efficiency and climate mitigation)	Repaying 2013	119,3
		<i>Subtotal EBRD</i>		<i>935,7</i>
	Asian Infrastructure Investment Bank	Gulshat PV Solar Power Plant	Approved concept in 2016	69,1
		<i>Subtotal AIIB</i>		<i>69,1</i>
		<b>Total IFIs</b>		<b>1496,1</b>

In the cases of the CTF and EIB projects it was presumed that all projects as presented in the table above fall under the term climate finance (see section 1.1 of this paper). The EIB current finance of projects in Kazakhstan is determined for climate change adaptation projects (the 2013 agreement with KazAgro) and for projects eligible under the Bank's External Lending Mandate Climate Strategy (the 2016 loan agreements with the Damu Fund). In the case of the GEF projects the table include only ongoing projects with climate change as the focal area as presented on the



GEF website.<sup>4</sup> The EBRD projects have been selected by the Consultant on the basis of the study of the Banks' portfolio for 2013-2016 for impacts in energy efficiency, promotion of renewables and reduction of GHG emissions, namely the sections on Transition Impact of Project Summary Documents as presented on the Bank's web site.<sup>5</sup> A similar approach to the AIIB project portfolio where only one eligible processed project on a solar power plant was identified.<sup>6</sup> Unlike the OECD Statistics the EBRD database provides more detailed information on processed projects and allow to separate the data on the CTF financing and the EBRD co-financing.

### *The Clean Technology Fund*

In 2009, the Government of Kazakhstan prepared its investment plan for the CTF, one of four programmes under the Climate Investment Funds. In April 2013 the Government of Kazakhstan submitted the updated Investment Plan to the Clean Technology Fund. The Government of Kazakhstan has requested funding from the Clean Technology Fund in the total amount of USD 200 mln to catalyse USD 1 bn of further investments in renewable energy, district heating and energy efficiency projects. The 2013 Revised Investment Plan covers two thematic areas: i) renewable energy development (USD 116 mln; ii) municipal energy efficiency and district heating modernization (USD 84 mln). The database of approved projects includes 6 projects from Kazakhstan in the amount of USD 108,8 mln.<sup>7</sup>

### *The European Bank for Reconstruction and Development*

The European Bank for Reconstruction and Development launched in 2015 the Green Economy Transition approach to put investments that focus on delivering environmental benefits. This approach seeks to increase the volume of green financing from an average of 24% of EBRD annual business investment in the 10 years up to 2016 to 40% by 2020.<sup>8</sup> In Kazakhstan the Bank supports a number of projects on renewables, energy efficiency and climate mitigation in power generation and distribution, cement production, municipal waste management, municipal public transport, district heating and street lighting.

### *The European Investment Bank*

The European Investment Bank (EIB) has committed at least 25% of its lending portfolio to low-carbon and climate-resilient growth. The Bank signed three financing contracts on green projects in Kazakhstan: i) one on 27 June 2013 with the "KazAgro" National Management Holding in the amount of EUR 150mln; ii) two on 24 November 2016 with the Damu Fund in the amounts of EUR 150 mln and EUR 50 mln. The agreement with KazAgro will finance loans for climate change

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<sup>4</sup> [http://www.thegef.org/projects?f\[\]=field\\_country:83&f\[\]=field\\_p\\_focalareas:2207](http://www.thegef.org/projects?f[]=field_country:83&f[]=field_p_focalareas:2207).

<sup>5</sup> <http://www.ebrd.com/work-with-us/project-finance/project-summary-documents.html?1=1&filterCountry=Kazakhstan>

<sup>6</sup> <https://www.aiib.org/en/projects/proposed/index.html#>.

<sup>7</sup> See the website of the Climate Investment Funds at [https://www-cif.climateinvestmentfunds.org/projects?field\\_related\\_country\\_target\\_id=53&field\\_mdb\\_tid=All&field\\_sector\\_tid=All&field\\_pp\\_sector\\_tid=All&field\\_related\\_fund\\_target\\_id=All&title=](https://www-cif.climateinvestmentfunds.org/projects?field_related_country_target_id=53&field_mdb_tid=All&field_sector_tid=All&field_pp_sector_tid=All&field_related_fund_target_id=All&title=)

<sup>8</sup> See the website of the European Bank for Reconstruction and Development at <http://www.ebrd.com/what-we-do/get.html>.

adaptation projects in the agri-food sector promoted by rural micro, small and medium enterprises. The agreements with the Damu Fund is on lending to small and medium-sized enterprises and investing in projects eligible under the Bank's External Lending Mandate Climate Strategy and the one for EUR 50 mln is already financed by the EIB.

Green finance to Kazakhstan is provided by various foreign donor organizations and governments. According to the OECD DAC statistics for 2013-2016, the major foreign donors for green projects in Kazakhstan were the European Commission and USAID, followed by the French Ministry for the Economy and Finance, the Ministry of Foreign Affairs of Norway, the Australian Government, KOICA (Korea) and JICA (Japan). For instance, the total amount of climate-related donor support to Kazakhstan by the European Commission amounted to 11,76 million USD, by the United States – USD 7,5 mln, France – USD 2,65 mln USD, Norway – USD 1,55 mln, Australia – 0,13 USD mln USD. It should be noted that many projects by donor organizations were aimed at capacity building activities.

## Conclusions

Although Kazakhstan has developed the Indicators of “a Green Economy of the Republic of Kazakhstan” the statistical data on green investment flows are not consistent with the term climate finance as defined in section 1.1 of this paper and climate mitigation and adaptation related finance flows as determined by the OECD Statistics. There are no other sources of information in the public domain that can be used to get aggregate figures on domestic climate finance in renewables and energy efficiency and even on green finance in its broadest definition (investments in all green infrastructure).

In the absence in Kazakhstan of national policy and legal frameworks for climate adaptation it is also impossible to identify financial flows for climate adaptation. Since the climate adaptation is considered under the Paris Agreement as a nationally driven process the need to have criteria of climate adaptation projects and relevant investment flows exists both in the international and national contexts.

The available data on the financial flows of the thematic Budget Programmes on climate change mitigation, renewables and energy efficiency present a small part of the actual climate finance in Kazakhstan. In essence, they cover the budgets of public authorities serving as regulators for the emission trading system, the scheme on energy efficiency and subsidies for purchases of small renewable installations from domestic manufacturers. Meanwhile public and private companies make direct domestic investments for projects on renewables and energy efficiency in Kazakhstan which are not captured by the current national statistics.

It can be concluded that the identified information gaps do not allow to present a full picture of the climate finance flows in Kazakhstan. There are data on the international climate finance flows to Kazakhstan but there are no established information flows of data on the domestic climate finance. This information gap needs to be closed by the development of legal and institutional frameworks and the methodologies for gathering and processing data compatible with the definition climate finance and comparable with the Global climate finance Breakdown as presented in Table 1 of this paper.

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