



KAZAKHSTAN: AN EMISSIONS TRADING CASE STUDY



Kazakhstan

The World's Carbon Markets: A Case Study Guide to Emissions Trading

Last Updated: May 2015

Second Compliance Period (2014-15)	
Target	Overall Target: 7% reduction below 1990 levels by 2020 and a 15% reduction by 2025 compared with the 1992 GHG emission level. The energy sector's target is a 3% reduction by 2015 relative to 2012 levels Phase II Target: 0% in 2014 and 1.5% emission reduction relative to individual 2011-2012 baseline
Cap	155.4 million tons of CO ₂ in 2014 and 153 million tons of CO ₂ in 2015
Carbon price	455 Tenge (March, 2014)
Green House Gasses covered	CO ₂
Number of Entities Covered	166
Sectors Covered	Oil, coal, and gas production; the power sector; mining and metallurgy; chemical industry; agriculture (inclusion currently being debated); and transport (inclusion currently being debated)
Threshold	> 20,000 tCO ₂ per year (based on 2010/2012 levels)
% total emissions covered	55%
Compliance tools & Flexible Mechanisms	Use of offsets, borrowing, joint implementation, linking

Table 1: Program Overview

Brief History & Recent Developments

Year	Event
2009	Kyoto Protocol ratified
2010	Strategic Development Plan of the Republic of Kazakhstan 2020.
2011	"Ecological Code" amended to support the implementation of the Kazakh ETS
2012	Law on "Energy saving and energy efficiency" enacted
2013	ETS (Pilot) Phase I begins
2013	President signed "Green Economy" legislation along with Action Plan (2013-2020)
2014	ETS Phase II begins

Table 2: Key Dates

Kazakhstan is the largest economy in Central Asia housing over 17 million people, and extending over a land-mass exceeding that of Western Europe.¹ As a country rich in natural resources,² Kazakhstan's economic focus is its industrial sector and the extraction and processing of these resources.³ In addition, Kazakhstan is a large producer of livestock and grain. The country, according to its 2006 census, has 76.5 million hectares of agricultural land, 61% of which is permanent pastures and 32% of which is arable land. The country produces about 10-17 million tons per year of wheat, its primary crop, and it also grows barley, oats, corn, and rice.⁴ In 2012, Kazakhstan began efforts to build a domestic emissions trading system (ETS) that led to the launch of its ETS pilot phase in January 2013 which operates largely using the EU ETS framework.⁵ This market intends to aid the country in achieving its goal of reducing greenhouse gas (GHG) emissions 7% below 1990 levels by 2020,

In 2012 Kazakhstan emitted 224 million tCO_{2e}, an amount equal to 6% of the EU's total GHG output.⁶ According to World Bank and U.S. Department of Energy data, the country is one of the world's largest emitters per unit of GDP. In 2013 the majority of GHG emissions were derived from the burning coal which provides for 63% of Kazakhstan's total energy consumption.⁷ While its 2012 emissions were below 1990 levels, the country's GHG emissions have climbed 81% over the past ten years, largely due to thriving energy and mining sectors.⁸ The country's three most promising emission reduction opportunities lie in: (1) renewable energy projects; (2) fuel switching and energy efficiency; and (3) reducing gas flaring from extraction of coal, oil, and natural gas.⁹

Kyoto Protocol was ratified by Kazakhstan on March 26, 2009,¹⁰ alongside the implementation of energy reform and energy efficiency legislation. This was followed by the Strategic Development Plan of the Republic of Kazakhstan 2020¹¹ which was approved in February 2010 by decree of the President. In November 2010, the country introduced a new law, "On Amendments to Certain Legislative Acts of the Republic of Kazakhstan Relating to Environmental Issues" (Law on Amendments), enhancing the country's ability to participate in carbon markets. Along with forming general rules for emissions trading and establishing liability for GHG emissions exceeding the limit defined in an allowance certificate, the Law on Amendments both categorizes operators into major and minor emitters, and facilitates Joint Implementation (JI) activities by excluding them from environmental licensing procedures. On 3 December, 2011,

Kazakhstan's government approved the amendment that would implement their "Ecological Code"¹² legislation establishing the Kazakh ETS and making it the first nationwide cap-and-trade system in Asia

On December 3, 2011, the Kazakh ETS was enacted into law through an amendment to the country's "Ecological Code." The program's rules were developed over the course of 2012 and approved as law on December 11, 2012. Many crucial design elements, such as allocation and measurement, reporting, and verification, resemble those of the EU ETS.¹³ The two primary institutions involved in the design and coordination of the Kazakh ETS include the Low Carbon Development Department within the Ministry of Environmental Protection (MEP), and the joint stock company Zhasyl Damu which is 100% owned by MEP.

Kazakhstan initiated a one-year trial period, or **Phase I**, of its ETS on January 1, 2013. The length of **Phase II** is set to span from 2014-15 with **Phase III** extending from 2016-20.

Summary of Key Policy Features

CAP & TARGET: The Kazakh ETS **target** will contribute to the country's previously-stated voluntary emissions reduction commitments of a 7% reduction to 1990 levels in the period between 2013 and 2020 as part of their non-binding Kyoto Protocol commitment (Doha Amendment). Domestically, Kazakhstan has pledged to reduce emissions by 7% below 1990 levels by 2020¹⁴ and by 15%, or 39 million tCO₂e, below 1992 levels by 2025. In the long term, Kazakhstan's domestic goal is 25%, or 65 million tCO₂e, below 1992 levels by 2050.¹⁵

The **energy sector's target** has a complimentary but individual target of 3% emissions reduction below 2012 levels by 2015.¹⁶ The emissions allocation used for Phase II is based on the average of historical 2011 and 2012 CO₂ emissions.¹⁷ The Phase III free allocation commencing from 2016 until 2020 is currently planned to be based on benchmarks.¹⁸

SCOPE & COVERAGE: During Phase I (pilot phase), the Kazakh ETS imposed allowance surrender obligations on 178 companies, and the cap for these companies was 147 million tCO₂e, which is based on stabilizing entities' 2013 emissions at 2010 levels. The **cap covers 55% of the nation's total GHG output**, and 77% of the country's CO₂ emissions. Phase II (2014-2015) currently covers **166 entities** from the following sectors: power and heat production, coal mining, oil and gas extraction, chemical industry, metallurgy, the cement industry and other processing industries.¹⁹ The only **gas** covered in Phase I and II is CO₂. Other gasses, methane (CH₄), nitrous oxide (N₂O) are being monitored for possible inclusion later phases.

The **threshold** for a company's inclusion in the ETS is 20,000 tCO₂e/year.²⁰ The Law on Amendments separates entities into two categories: Major Emitters, entities whose overall annual emissions exceed 20,000 tCO₂e, and Subjects of Administrative Regulation (SARs), entities that emit below 20,000 tCO₂e annually. Major emitters are allowed to **trade** allowances domestically through emissions exchanges. The Ministry does not allocate allowances to SARs, but these entities will be obligated to pay an emissions-related tax (amount unknown).²¹

The **point of determining cap coverage is downstream**,²² meaning covered **sectors** included oil and gas production, the power sector, mining and metallurgy, the chemical industry, agriculture, and transportation. While Phase I covered companies, not installations, companies are obligated to report data at the installation level in Phase II. This data will be subject to verification by an independent third party before it is approved by the government.^{23, 24}

ALLOWANCE DISTRIBUTION: Kazakhstan's MEP freely allocates allowances (grandfathering) for the first three years of the program (2013-15) using different baseline years. Free allocation for 2015 is 98.5% against the prescribed base line (see Table 4).

Year	Number of enterprises	Volume of Quotas tCO ₂	Reduction commitment base year
2013	178	147,190,092	0% (2010)
2014	166	155,353,757	0% (2011-12)
2015	166	153,023,450	1.5 (2011-12)

Table 3: Kazakhstan's National Allocation Plans 2013-15

Source: UNFCCC, 2014. Available at: cdm.unfccc.int pg.5

The ETS legislation details information participating companies must provide in their allocation applications, including a list of installations, monitoring plans, and a summary of plans to reduce emissions and comply with targets. The first of the National Allocation Plans (NAPs), a document submitted by the MEP each year to establish how many allowances each participant receives,²⁵ was adopted in 2013 covering the years 2014-2015 and the following sectors: coal, oil and gas production, power and industry (See Table 5). The NAPs also help determine the cap coverage of the Kazakh ETS.

Phase II (2014-15)			
Sector	Number of Companies	2014 emissions (million tCO ₂)	2015 allocated carbon permits (millions)
Energy	60	93.4	92
Coal mining, oil & gas extraction	66	23.4	23
Industry	40	38.6	38
Total	166	155.4	153

Table 4: Allocation by Sector, Phase II

Source: Carbon Market Data, 2015. Available at: carbonmarketdata.com

The **reserve of allowances** made available to new installations (see Table 6) are allocated depending on planned capacity and energy saving measures that have been integrated into the facility.

Year	Reserve of Carbon Quotas
2013	20.6 million CO ₂ allowances
2014	18 million CO ₂ allowances
2015	20.5 million CO ₂ allowances

Table 5: Reserve Carbon Quotas for new installations

Source: Carbon Market Data, 2015. Available at: carbonmarketdata.com

Auctioning may be introduced in Phase III, in the meantime all allowances are distributed for free and placed directly into an operator's account on the Zhasyl Damu registry. In August 2013, the Kazakh government announced that commodities exchange Caspi was selected to begin selling allowances to operators. The first allowance transaction took place on the 28 March 2014 at the price of 455 Tenge (EUR 1.98), 16,000 Kazakh 'quotas' were traded²⁶

FLEXIBILITY PROVISIONS: Regarding flexibility mechanisms, the legislation does not allow for **banking** between Phase I and Phase II. However, borrowing in Phase II is allowed. The legislation details modalities for non-ETS sector offset projects, and it establishes that offset projects must apply basic CDM principles.

According to the relevant sections of [the legislation](#), **domestic offsets** located in Kazakhstan can stem from the following sectors: mining and metallurgy (utilization of mine methane); agriculture; housing and communal services; forestry; prevention of land degradation; renewables; processing of municipal and industrial waste; transport; and energy-efficient construction. Other sectors or project types can be introduced over time. The crediting period for domestic offset projects approved prior to December 31, 2015 lasts until December 31, 2020; and, the crediting period for domestic offset projects approved after December 31, 2015 is yet to be determined. In addition, domestic offset projects that reduce CO₂ and other GHGs are acceptable, and installations covered under the NAP are not eligible for generating offsets.²⁷ At the time of publication, no domestic offsets in Kazakhstan have been issued.

Since 2001, Kazakhstan has been considered an Annex I party to the United Nations Framework Convention on Climate Change (UNFCCC) and is therefore ineligible to generate CERs (Certified Emission Reductions) from the Clean Development Mechanism (CDM) or Emission Reduction Units (ERUs) from Joint Implementation (JI). However, CERs and ERUs are allowed under the "Ecological Code",²⁸ and systems for trading Assigned Amount Units (AAUs) and Emission Reduction Units (ERUs) have been drafted, but their implementation is contingent upon Kazakhstan's future inclusion as part of Annex B of the Kyoto Protocol.²⁹ Kazakhstan is currently benefiting from the support of Norway, USAID and the European Bank for Reconstruction and Development (EBRD) whom are facilitating the development of offset protocols, tools, guidelines and methodologies within the existing legislation.³⁰ However, without Annex B classification, the ETS will only impact Kazakhstan's domestic market. In the future, limited use of CERs and ERUs may be allowed so as to increase flexibility in the Kazak ETS as new entrants establish themselves, the economy continues to develop and emissions intensity stabilizes.

An amendment to the Kyoto Protocol passed in Doha limits the number of AAU's from the second commitment period (CP2) that a country can use for compliance.³¹ Therefore, by submitting a pledge under CP2 Kazakhstan can only use the number of CP2 AAU equivalent to the average of its emissions from 2008-10 multiplied by 8 (years in the commitment period). This amendment deepens Kazakhstan's emission reduction target by limiting their total emissions between 2013 and 2020.

REGULATION & OVERSIGHT: Kazakhstan have established infrastructure to guide the **monitoring** and **reporting** of GHG emissions for installations.³² Amendments to the Monitoring and Reporting Regulation (MRR), and Accreditation & Verification Regulation (AVR) are currently being reviewed and debated by the Ministry of Environment and Water Resources (MEWR). To date, Kazakhstan has developed 40 sectoral guidelines for GHG monitoring and reporting. Reports are submitted to the MEP in April each year and require third party verification. Installations that do not meet the compliance threshold are still required to report their emissions; however, these need not be verified.³³ The verification framework has yet to be implemented; as a result there is a low level of confidence among stakeholders, participants and government in verified data due to the absence of standard methodologies and guidance for conducting verification.

As is the case for allocation, the MEP is in charge of Kazakhstan's ETS **market oversight**. The ETS legislation mandates that trades must occur on designated emissions trading platforms. In addition, the legislation defines a national emissions registry, the accreditation process for validators of monitoring plans, and the accreditation process for verifiers of emissions reports.

Penalties were not imposed on companies that did not surrender sufficient allowances during Phase I.³⁴ During Phase II the penalty for non-compliance is €40 per tCO₂.³⁵ For Phase I there were no penalties for non-compliance³⁶ but there were penalties for not submitting the required documents and reports to the MEP. Companies that fail to submit the necessary reports and documentation to the MEP will be subject to fines and criminal prosecution, and sanctions would not relieve facilities from their duty to submit allowances.³⁷

SUPPLEMENTARY MEASURES: Apart from ETS progress, wide-ranging environmental legislation has been enacted by Kazakhstan in recent years. In January 2007, the “Ecological Code of Republic Kazakhstan” became the standard document regulating GHG emissions and absorption.³⁸ In July 2009, the country adopted the law “On Supporting the Use of Renewable Energy Sources,” which aims to begin the country’s gradual transition to renewable energy sources (RES) by using economic mechanisms to induce investments in this sector. Solar, wind, large-scale hydro, geothermal, and biomass projects all offer potential. While this law has stimulated action, the country’s development of RES sources is still in its initial stage.³⁹ In the first half of 2013, there were substantial developments in a nation-wide feed-in-tariff regime aimed at increasing the share of renewable electricity generation in an effort to meet their renewable energy pledge in 2020. Initial tariffs were set in June 2014.

Kazakhstan is also currently seeking financing for urban development projects in line with their development goals and emission reduction target via their submissions of Nationally Appropriate Mitigation Actions (**NAMAs**) to the UNFCCC. These investments will direct international funds towards low carbon urban development projects and contribute to capacity building and infrastructure development.⁴⁰ Thus far, these projects include; Urban NAMA Astana and Solar NAMA Kazakhstan.⁴¹

What Distinguishes This Policy?

UNIQUE ISSUES

1. Kazakhstan was the **first country in Asia** to implement an economy-wide ETS in 2013. South Korea’s economy-wide ETS began in 2015.
2. At least during Phase I, the Kazakh ETS applied to **companies**, not installations.
3. Kazakhstan’s **Kyoto status** as an Annex 1 country that is not part of Annex B is unique and a challenge.
4. So far, Kazakhstan’s **ETS implementation has occurred relatively unhindered** following the enactment of pertinent laws and the approval rules. On December 3, 2011, the Kazakh ETS was enacted through an amendment to the country’s “Ecological Code”. On December 11, 2012, rules and regulations for the Kazakh ETS were approved. On January 1, 2013, the pilot phase for the Kazakh ETS was initiated. However, industry involvement and trading activity remain weak.

CHALLENGES

1. The methodology used to allocate allowances has met strong opposition from businesses during the development of the NAPs, largely due to the fact that it does not take into account the specific circumstances of different sectors or facilities. Historical data is often unreliable due to discrepancies in the MRV system that is currently in place. This is one of the main reasons Kazakhstan has expressed interest in introducing benchmarking in Phase III, (2016 onwards) however, this endeavor will likely require significant financial resources and possibly international support.

2. While current legislation outlines overall procedures for the development, review, approval and implementation of offset projects there are no methodologies, tools, or guidelines to allow for concrete projects to be developed.
3. Current MRV regulations still contain inconsistencies, which need to be corrected. Without a fully functional verification framework and reporting methodologies the reliability of data currently leads to a low level of confidence.
4. In order for the Kazakh ETS to successfully link to another ETS either unilaterally or bilaterally, the legislation supporting the program (Ecological Code) will need to be adjusted to allow for the transfer of emission reduction units into the national system.
5. The lack of clarity on the future amendments to the Ecological Code, the fact that all allowances are currently distributed for free, and the transition from the first to the second phase of the ETS has led to very trading activity in Kazakhstan and no clear indication of a carbon price.

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Disclaimer: The authors encourage readers to please contact the CDC Climat Research, EDF and IETA Contacts with any corrections, additions, revisions, or any other comments, including any relevant citations. This will be invaluable in strengthening and updating the case studies and ensuring they are as correct and informative as possible

REFERENCES

- 1 International Energy Administration (EIA). 2013. Overview Data for Kazakhstan. Available at: <http://www.eia.gov/countries/country-data.cfm?fips=kz#cde>
- 2 The country's abundant natural resources include oil and natural gas, uranium, chromium, lead, zinc, manganese, copper, coal, iron, and gold.
- 3 Trading Economics (2012). "CO2 Emissions (KT) in Kazakhstan." Available at <http://www.tradingeconomics.com/kazakhstan/co2-emissions-kt-wb-data.html>
- 4 United States Department of Agriculture (January 2010). "Kazakhstan Agricultural Overview." Available at http://www.pecad.fas.usda.gov/highlights/2010/01/kaz_19jan2010/
- 5 Kruppa, Marton (December 2012). "Kazakhstan approves emission limits for big polluters." Thomson Reuters Point Carbon. Available at <http://www.pointcarbon.com/news/1.2096955>
- 6 International Energy Administration (EIA). 2013. Overview Data for Kazakhstan. Available at: <http://www.eia.gov/countries/country-data.cfm?fips=kz#cde>
- 7 EIA. 2013. Overview Data for Kazakhstan. Available at: <http://www.eia.gov/countries/country-data.cfm?fips=kz#cde>
- 8 Kruppa, Marton (April 2012). "Kazakhstan to launch carbon market next year." Thomas Reuters Point Carbon. Available at <http://www.pointcarbon.com/news/1.1825513>
- 9 Climate Focus (January 2010). "Option Review for Kazakhstan to Participate in the International Carbon Market." Available at <http://www.ebrd.com/downloads/sector/eccc/kaz.pdf>
- 10 Yessimkhanov, Yerzhan (February 2012). "Kazakhstan Introduces Legislation on Climate Change." Grata Law Firm. <http://www.hg.org/article.asp?id=25059>
- 11 President of the Republic of Kazakhstan, 2010. The Strategic Plan for Development of the Republic of Kazakhstan until the year 2020: Approved by Decree of the President of the Republic of Kazakhstan No. 922, February 1, 2010. Available at: http://www.akorda.kz/en/category/gos_programmi_razvitiya
- 12 Republic of Kazakhstan, 2007. The Ecological Code of the Republic of Kazakhstan. Available at: <http://invest.gov.kz/upload/docs/en/323a08584fc35cf34230a6139a54d974.pdf>. (Translated)
- 13 Ni, Vadim, Jelmer Hoogzaad, and Darragh Conway, "New Market Mechanism: Will Kazakhstan be the next country to establish a carbon emissions trading scheme?" *Carbon Trading Magazine*. Volume 1, Issue 8. October 2012. <http://www.carbon-tradingmagazine.com/wp-content/uploads/2012/09/Carbon-Trading-October-20121.pdf>
- 14 Carbon Limits and Thomson Reuters Point Carbon (April 2013). "The Domestic Emissions Trading Scheme in Kazakhstan." Available at <http://www.ebrdpeter.info/Reports/20130424%20EBRD%20PETER%20Project%20-%20Kazakhstan%20ETS.pdf>
- 15 Sterk, Wolfgang and Florian Mersmann (August 2011). "Domestic Emission Trading Systems in Developing Countries—State of Play and Future Prospects." Wuppertal Institute for Climate, Environment, and Energy. JIKO Policy Paper 2/2011. Available at <http://www.jiko-bmu.de/files/basisinformationen/application/pdf/pp-ets-developing-countries.pdf>
- 16 Ni, Vadim, Jelmer Hoogzaad, and Darragh Conway, "New Market Mechanism: Will Kazakhstan be the next country to establish a carbon emissions trading scheme?" *Carbon Trading Magazine*. Volume 1, Issue 8. October 2012. <http://www.carbon-tradingmagazine.com/wp-content/uploads/2012/09/Carbon-Trading-October-20121.pdf>
- 17 Partnership for Market Readiness, 2015. Kazakhstan. Available at: <https://www.thepmr.org/country/kazakhstan-0>
- 18 Partnership for Market Readiness, 2015. Kazakhstan. Available at: <https://www.thepmr.org/country/kazakhstan-0>
- 19 Climate Action Tracker, 2015. Kazakhstan. Available at: <http://climateactiontracker.org/countries/kazakhstan.html>
- 20 Ni, Vadim, Jelmer Hoogzaad, and Darragh Conway, "New Market Mechanism: Will Kazakhstan be the next country to establish a carbon emissions trading scheme?" *Carbon Trading Magazine*. Volume 1, Issue 8. October 2012. <http://www.carbon-tradingmagazine.com/wp-content/uploads/2012/09/Carbon-Trading-October-20121.pdf>
- 21 Yessimkhanov, Yerzhan (February 2012). "Kazakhstan Introduces Legislation on Climate Change." Grata Law Firm. <http://www.hg.org/article.asp?id=25059>
- 22 International Carbon Action Partnership (icap) (April, 2013). "Interactive ETS Map Detailed ETS Profile: Kazakhstan Emissions Trading Scheme (KAZ ETS)." Available at http://icapcarbonaction.com/index.php?option=com_wrapper&view=wrapper&Itemid=147
- 23 Transportation and agricultural sectors are technically covered, but the combination of low political will to include all types of corporations, such as railroad companies and airlines, and the small size of the majority of installations within these sectors imply that these sectors will likely not be covered before 2020.
- 24 Carbon Limits and Thomson Reuters Point Carbon (April 2013). "The Domestic Emissions Trading Scheme in Kazakhstan." Available at <http://www.ebrdpeter.info/Reports/20130424%20EBRD%20PETER%20Project%20-%20Kazakhstan%20ETS.pdf>
- 25 Ni, Vadim, Jelmer Hoogzaad, and Darragh Conway, "New Market Mechanism: Will Kazakhstan be the next country to establish a carbon emissions trading scheme?" *Carbon Trading Magazine*. Volume 1, Issue 8. October 2012. <http://www.carbon-tradingmagazine.com/wp-content/uploads/2012/09/Carbon-Trading-October-20121.pdf>
- 26 ICAP Carbon Action Partnership, 2015. Kazakhstan Emissions Trading Scheme (KAZ ETS). Last updates February 2015. Available at: https://icapcarbonaction.com/index.php?option=com_etsmap&task=export&format=pdf&layout=list&systems%5B%5D=46
- 27 Carbon Limits and Thomson Reuters Point Carbon (April 2013). "The Domestic Emissions Trading Scheme in Kazakhstan." Available at <http://www.ebrdpeter.info/Reports/20130424%20EBRD%20PETER%20Project%20-%20Kazakhstan%20ETS.pdf>
- 28 Carbon Limits and Thomson Reuters Point Carbon (April 2013). "The Domestic Emissions Trading Scheme in Kazakhstan." Available at <http://www.ebrdpeter.info/Reports/20130424%20EBRD%20PETER%20Project%20-%20Kazakhstan%20ETS.pdf>
- 29 Yessimkhanov, Yerzhan. "Climate Change – New opportunities for Subsoil Users." Grata Law Firm. Available at http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0CB4QFjAA&url=http%3A%2F%2Fwww.gratanet.com%2Fup_files%2Fgrata_a_climate%2520change_2011.ppt&ei=UI-IUL_zKpO2AAGn3YGICQ&usq=AFQjCNG9wBqNaD86LW9-7tOQRLAIFdaKfQ&sig2=E01qFVZkqBNGq8kNo0uWTA
- 30 Kazakhstan PMR Proposal for Targeted Technical Support, March 2014. Available at: https://www.thepmr.org/system/files/documents/Kazakhstan_Tech_Proposal.pdf
- 31 Decision 1/CMP.8/2012/13. UNFCCC, 2013. Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eighth session, held in Doha from 26 November to 8 December. Available at: <http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf>
- 32 Climate Focus (January 2010). "Option Review for Kazakhstan to Participate in the International Carbon Market." Available at <http://www.ebrd.com/downloads/sector/eccc/kaz.pdf>
- 33 Ni, Vadim, Jelmer Hoogzaad, and Darragh Conway, "New Market Mechanism: Will Kazakhstan be the next country to establish a carbon emissions trading scheme?" *Carbon Trading Magazine*. Volume 1, Issue 8. October 2012. <http://www.carbon-tradingmagazine.com/wp-content/uploads/2012/09/Carbon-Trading-October-20121.pdf>
- 34 Kruppa, Marton (April 2012). "Kazakhstan to launch carbon market next year." Thomas Reuters Point Carbon. Available at <http://www.pointcarbon.com/news/1.1825513>
- 35 The PMR, 2013. Kazakhstan Emission Trading Scheme (KAZ ETS): Status and Challenges of MRV. Available at: <http://www.thepmr.org/system/files/documents/18.0-%20KAZAKHSTAN%20presentation-kaz.pdf>
- 36 Carbon Limits and Thomson Reuters Point Carbon (April 2013). "The Domestic Emissions Trading Scheme in Kazakhstan." Available at <http://www.ebrdpeter.info/Reports/20130424%20EBRD%20PETER%20Project%20-%20Kazakhstan%20ETS.pdf>
- 37 Yessimkhanov, Yerzhan (February 2012). "Kazakhstan Introduces Legislation on Climate Change." Grata Law Firm. <http://www.hg.org/article.asp?id=25059>
- 38 Kazakh Carbon. "Legislation on regulation of GHG emissions in the Republic of Kazakhstan." Available at <http://kzc.kz/en/legislation/legislation>
- 39 Yessimkhanov, Yerzhan (February 2012). "Kazakhstan Introduces Legislation on Climate Change." Grata Law Firm. <http://www.hg.org/article.asp?id=25059>
- 40 NAMA Database, 2015. Kazakhstan. Available at: <http://www.nama-database.org/index.php/Kazakhstan>
- 41 Asian Development Bank, 2014. NAMAs and Climate Finance in Kazakhstan. Available at: http://mitigationpartnership.net/sites/default/files/5_-_inyutina_-_kazakhstan_nama_-_eng.pdf