



CLIMATE**FOCUS**

# Option Review for Kazakhstan to Participate in the International Carbon Market

Combined Report of

Report 1: Assessment of Kazakhstan's Role  
under the UNFCCC and the Kyoto Protocol

and

Report 2: Relevant Emissions Trading Schemes  
for Kazakhstan Within and Beyond the Kyoto  
Protocol

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## PREFACE

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# Executive Summary

This report explores the options open to the Kazakh Government and the country's private sector to engage in carbon finance activities as soon as possible, taking into account the legal, institutional and economic aspects. The prospective timeframe analyzed includes both the Kyoto Protocol (the Protocol) commitment period until and including 2012 and the time thereafter. To this end, the report describes the basic division of Annex I country versus developing country Parties under the United Nations Framework Convention on Climate Change (the Convention), and Kazakhstan's various interventions at the international level to position itself in between this strict divide in the Convention and then in the Protocol.

Kazakhstan is a party to both the Convention and the Protocol. The accession to the Protocol in 2009 went along with a confirmation made by the Kazakh Government that Kazakhstan continues to be committed to joining industrialised nations in their effort to limit and/or reduce greenhouse gas emissions (GHG) and to accept a binding and quantified emission limitation of 100% over a 1992 baseline.

The international carbon market can roughly be divided into the compliance driven and the voluntary carbon market. The compliance driven, or regulated carbon market, includes markets created under the Protocol as well as mandatory national or regional emission trading schemes. The voluntary carbon markets, on the other hand, originate in non-mandatory schemes in which different actors, government players, corporate firms or individuals, can participate; there are domestic, regional and international voluntary schemes.

We understand that Kazakhstan's main focus is on participation in the regulated carbon market. It has assumed all obligations of an Annex I Party (Annex I) under the Convention and it declared that it wishes to assume a quantified emission limitation and reduction targets under the Protocol. However, currently Kazakhstan is excluded from Annex B of the Protocol (Annex B) despite the fact that Kazakhstan has ratified the Protocol and declared that it wishes to be bound by greenhouse gas (GHG) emission limitation targets. Being considered an Annex I Party without Annex B status means that Kazakhstan cannot participate in any of the flexible mechanisms: the Clean Development Mechanism (CDM), Joint Implementation (JI) or International Emissions Trading (IET). Until Annex B status is achieved, Kazakhstan may prepare its administration and its economy for JI implementation, but the issuance and transfer of tradable compliance credits can only occur after this event. In the meantime, the voluntary carbon market offers options for engagement, for attracting private capital and for laying out the groundwork for the implementation of a sustainable low-carbon path.

### Annex B Inclusion

The procedural steps for Kazakhstan's inclusion in Annex B are (i) a favourable COP/MOP decision approving an Assigned Amount for Kazakhstan, (ii)



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ratification by at least 75% of the Parties to the Protocol in accordance with each country's treaty ratification procedures, and (iii) depositing the ratification act with the UN Secretary General as the Protocol's Depositary. Though a significantly challenging task in operational terms, as shown by Belarus' ongoing inability to be included in Annex B despite having its target accepted by the Parties to the Protocol, it is a goal worth pursuing. The inclusion of Kazakhstan into the circle of countries accepting to cap their GHG emissions will send a powerful signal to the international community as it does not only prepare a leading Central Asian country for a low carbon trajectory but it will also strengthen the case for broader adoption of Annex I commitments. The earlier COP/MOP would adopt its decision to include Kazakhstan in Annex B, the more time there is for ratification by the required number of Parties. As a rule, any Annex B amendment needs to be proposed to the Kyoto Parties six months prior to the session where a decision is to be adopted. Kazakhstan, under the expectation that COP/MOP would treat the Kazakh amendment proposal at the Copenhagen session in December 2009, submitted its proposal in May 2009. However, pointing to the fact that at that time Kazakhstan was formally not yet a Kyoto Party, the Convention Secretariat refused to circulate the Kazakh amendment among parties to the Convention. The Kazakh UNFCCC negotiation team is currently exploring creative legal solutions that would allow COP/MOP-5 to take a decision on Kazakhstan's Assigned Amount and inclusion into Annex B of the Protocol.

### Political Action and Negotiation Modes

It is Kazakhstan's priority to achieve Annex B status prior to the end of the current commitment period (2008-2012) as it wishes to receive a calculated overall emission cap—the Assigned Amount and the Assigned Amount Units (AAUs), respectively—before a new allocation (post 2012) will take place for all Annex B countries. A pre-2013 allocation would allow JI projects to start generating credits from 2008 against the 2008-12 Assigned Amount.

To help facilitate early Annex B inscription Kazakhstan should not only continue in its efforts to put the issue on the Copenhagen agenda but also effectively promote its case among Kyoto State Parties. One way to do this is via direct communications, country presentations and so on. In addition, Kazakhstan could build a strong case for itself by tightening the emission limitation target that the country has been proposed thus far for 2012 (100% over 1992 levels) and by proposing a new, ambitious target for the post 2012 period. Taking into account that the creation of additional surplus AAUs is the main concern among Annex I Parties to the Kyoto Protocol with respect to a Kazakh amendment, such display of ambition would help in creating trust amongst State Parties and carbon market investors.

### Preparing for JI

The Annex B inscription forms the fundamental condition for engagement in the regulated JI carbon market. There are nonetheless various other prerequisites



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that Kazakhstan will need to comply with in order to be ready for JI, once inscription is achieved. Most importantly, it will only be allocated an Assigned Amount on the basis of continuous Annex I formatted national inventories starting from the base year and the submission of an initial communication, which stands approval or rejection by a Convention organised review process (16 months deadline).

Furthermore, engagement in JI requires Kazakhstan to have a JI project approval mechanism and a national registry in place and its Assigned Amount calculated and recorded.

When establishing the approval mechanism, Kazakhstan may as well consider the possibility of retroactive crediting for verified emission reductions from JI eligible projects. The commitment to convert JI eligible verified emission reductions in emission reduction units (ERUs) would support the promise of (retroactive) crediting and thereby encourage project proponents to accelerate JI project development.

ERUs are converted AAUs, which a country can only issue when it holds a confirmed Assigned Amount. The decision to allow retroactive crediting would send a political signal to project proponents as well as to the international community that Kazakhstan's commitment to the Kyoto mechanisms is strong and that it is ready to assume liabilities even before it has formally received an Assigned Amount allocation.

### Voluntary Markets

While Kazakhstan is negotiating Annex B inscription and the Copenhagen Agreement on future commitments and setting up all technical requirements for JI commencement, it may encourage Kazakh public and private entities engaging in voluntary carbon markets. As part of the country's JI approval procedures it could establish that voluntary carbon market projects which comply with the relevant rules and meet agreed standards could be recognised as JI projects, once the JI mechanism is successfully implemented in Kazakhstan.

### Emission Reduction Opportunities

The carbon intensity of Kazakhstan's economy was 5.49 tCO<sub>2</sub>e/USD in 2006, which is among the highest in the world. An important source of emissions is the country's power production, which is heavily based on coal, while the renewable energy potential is largely untapped. Although the emission reduction opportunities of smaller sectors should not be neglected, the largest emission reduction potential lies in:

- Renewable energy projects,
- Fuel switch and energy efficiency in (coal fired) power plants, and
- Reducing gas flaring from coal, oil and natural gas extraction activities.



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### Post 2012

The prospects for Kazakhstan's participation in international carbon markets after 2012 are good. The country's high GHG mitigation potential combined with a by then established Annex B makes the country an attractive host of carbon finance operations. For the period post 2012 Kazakhstan has all reason to negotiate the Copenhagen Agreement as a strong member of the group of countries ready to assume targets, insisting on equal rights and obligations. Similarly to other countries having undergone a major market transition in the beginning of the 1990s, Kazakhstan is also well positioned to engage in real mitigation reduction, while not overstressing its commitment and endangering economic growth.

Nonetheless, Kazakhstan is advised to demonstrate to its international partners its determination to real emission reduction efforts, going beyond mere stabilization of historic output. The acceptance of a cap that is in the range of the Russian and the Ukrainian proposal (i.e. between -10% and -20%), seems a sensible approach for Kazakhstan in order to participate in a responsible global deal.





## Recommendations

The following section summarises a series of action points which if implemented could assist Kazakhstan to reach the goals of (i) engaging in the international carbon markets, (ii) taking action at the earliest possible stage, and (iii) involving private capital to create a foundation for a low carbon future for the country.

### Annex B Inscription and the Politics of International Negotiations

The inclusion of the country into Annex B of the Kyoto Protocol, a pre-condition for the allocation of an Assigned Amount, *before 2012* is a strategic priority for the Government of Kazakhstan. To obtain this objective, the country needs to clear significant hurdles, most prominently a Kazakh amendment to the Protocol would have to be ratified by 75% of all Kyoto Parties. Since it is almost impossible to obtain the necessary number of ratifications, we recommend that Kazakhstan pursues the goal to obtain a positive decision on a pre-2012 Assigned Amount that would give the country the ability to develop an emission reduction strategy around the agreed emission limitation target, *without however expecting that AAUs will actually be issued or the Kazakh amendment will enter into effect before 2012.*

In order to solve the impasse at the international treaty level and to accelerate Annex B inclusion for Kazakhstan; we recommend the following tactics and concrete actions:

1. Ensure Kazakhstan's inclusion into Annex B of the Kyoto Protocol as soon as possible and before the end of the current commitment period in 2012.

#### **Actions**

- a. Work towards a decision on pre-2012 AAUs at COP/MOP-4:
  - i. Renew the amendment proposal on the inclusion of Kazakhstan in Annex B as submitted in May 2009
  - ii. Enter into direct talks with the Umbrella Group (a UNFCCC negotiation group of Annex I countries) and EU negotiators to develop a strategy to achieve a decision on Kazakhstan's AAUs at COP-15
  - iii. Complement and strengthen Kazakhstan's negotiation team at UNFCCC meetings
  - iv. In case there is no decision on Kazakhstan's AAUs at COP/MOP-4, renew the amendment proposal and the agenda point for COP/MOP-5
- b. Establish the credibility of Kazakhstan's emission reduction commitment (see also point 3 below):
  - i. Issue and communicate among Kyoto Parties policy statement describing Kazakhstan's position and ambitions under the Kyoto Protocol



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- ii. Organise presentations and events (a side event at the Barcelona UNFCCC meetings) that put forward Kazakhstan's stance on engaging in the flexible mechanisms at the political and technical level
  - iii. Lobby among Kyoto Parties for the ratification of Annex B inscription
2. In parallel, focus on post 2012 and realize a strong negotiation position for Copenhagen, establish a country position with an ambitious and realistic emissions cap post 2012, and secure that Kazakhstan be included in Annex B or its future equivalent, respectively.

### **Actions**

- a. Issue a policy statement including a proposal on a post 2012 cap for Kazakhstan, a draft statement is included in Appendix 5
  - b. Present Kazakhstan's emission reduction and limitation target under the UNFCCC and the Kyoto Protocol negotiation track
  - c. Identify Kazakhstan's carbon potential and check governance and financing needs against mechanisms, primarily JI (but also others), and establish the relevant carbon market institutions
  - d. Establish strategic alliance with the EU and Umbrella Group while reaching out to G77 negotiators
  - e. Follow closely the Copenhagen Agreement drafting process to secure that Kazakhstan be included in Annex B or its future equivalent
3. Convince the international community of Kazakh's commitment to contribute in a meaningful way to GHG reductions.

### **Actions**

- a. Communicate through events, press releases and all appropriate means, that Kazakhstan is among the first nations to switch sides from a non-capped environment to the list of countries subjecting themselves to fixed targets
  - b. Issue a policy statement confirming the country's commitment to take up targets prior to 2013 and post 2012 (see also Appendix 5)
  - c. Develop a low carbon development strategy for Kazakhstan
  - d. Organise a side-event at the COP/MOP preparation meeting in November in Barcelona to demonstrate to State Parties, carbon market representatives and civil society both that Kazakhstan is dedicated to the implementation of JI to tackle the country's large emissions, and that it is more than most committed to take decisive mitigation action because it is more than most exposed to the negative effects of climate change



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Participation in JI requires meeting the eligibility criteria, having an Assigned Amount allocated and having an approval procedure in place. However, these requirements only govern the actual transfer of ERUs. At project level, this transfer can only take place after the project has been determined under Track 1 or Track 2, has been implemented, finalised a period of successful operation and monitoring, and finally has had its emission reductions verified. To be able to immediately benefit from JI eligibility the moment it is obtained, the Kazakhstan Government can start and support all the steps up to the conversion of AAUs and transfer of ERUs now.

In order to allow Kazakhstan to participate in the regulated carbon market as soon as possible, we recommend the following tactics and concrete actions:

1. Establish JI eligibility as soon as possible.

### **Actions**

- a. Develop work plan and define technical assistance needs
  - b. Prepare the initial report prescribed for Annex B countries containing, among others, a national GHG inventory, a national inventory report, the selection of the base year and the calculation of the Assigned Amount
  - c. Establish and implement efficient JI approval procedures
  - d. Create a national registry
  - e. Create a national system and submit annually the most recent required inventory and supplementary information on assigned amount (for JI Track 1 only)
2. Ensure a smooth operation of JI support structures

### **Actions**

- a. Define capacity building needs
- b. Educate and train civil servants and/or other staff in operating the system and the registry
- c. Train civil servants and/or other staff in Kyoto Protocol, JI mechanisms, and international carbon markets
- d. Ensure coordination among relevant Ministry staff (Ministries for Industry, Natural Resources, Financing etc.) so that Kyoto policies and carbon markets are accounted for when national regulations are shaped and potential risks for JI implementation (regarding additionality, for instance) can be contained

### Incentives for the Private Sector

Successful engagement of Kazakhstan in the carbon markets also requires mobilising the private sector. This starts with clearly communicating Kazakhstan's strategy towards eligibility for and participation in the flexible mechanisms, possibly complemented with a domestic trading scheme. The Kazakh Government can take early action also on the flexible mechanisms, which should stimulate early action from the private sector and support the country's strategy towards Annex B inclusion.



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In order to encourage private investment and to facilitate early action, we recommend the following tactics and concrete actions:

1. Communicate JI as a business opportunity.

### **Actions**

- a. Take a clear position on JI and explain that engagement into the CDM is not an alternative
  - b. Communicate this choice through public statements, press announcements, Ministry website information and other means
  - c. Consider capacity-building measures (education and training) of representatives of public and private businesses
  - d. Organise meetings with business associations to align policies and investment opportunities
  - e. Develop training materials, work with media and develop outreach plan
2. Start JI Approval and Determination Process

### **Actions**

- a. Establish a JI approval procedure and JI eligibility policy criteria and conditions
  - b. Appoint the JI approval decision making unit, the agency processing the applications and determine who will legally sign the Letter of Approval upon recommendation from the decision making unit
  - c. Accept JI approval applications by the Designated Focal Point (at the moment the Ministry of Environment) and hand out Letters of Approval—at least on conditional terms in relation to the Annex B subscription
  - d. Enact determination procedures, if Track 1 JI is envisaged and start performing determination on conditional terms
3. Examine the possibility for retroactive crediting or comfort for other markets

### **Actions**

- a. Adopt decision on retroactive crediting
  - i. Against a pre 2013 Assigned Amount; ('retroactive crediting' in the strict sense; or also
  - ii. Against a post 2012 Assigned Amount ('early crediting')
- b. Back the promise of retroactive crediting by legal commitment to transfer ERUs as soon as technically possible for emission reductions determined and approved by the Government
- c. Make a risk assessment and examine risk mitigation strategies (conditioning or rights, quantitative limitations etc.)
- d. Establish criteria for retroactive crediting



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- e. Provide additional comfort by issuing Government supported VERs, that would be based on JI procedures, in case Kazakhstan would never obtain AAUs, so that Sponsors could still use such credits for voluntary or other than Kyoto regulated emissions trading markets.

### Voluntary Markets

Contrary to JI, projects that are developed under a voluntary carbon market scheme typically do not require either international regulatory action or host country approval. The Kazakh Government can efficiently stimulate initiatives in the voluntary carbon markets, thereby leveraging private capital while bridging the period until JI becomes available.

In order to take ad-hoc mitigation action, involve private financing and prepare for a subsequent transition to JI, the following tactics and concrete actions are recommended:

1. Taking a clear position towards voluntary market projects

#### **Actions**

- a. Issue a policy statement that welcomes voluntary carbon market action in and for Kazakhstan
  - b. Encourage market players (public players as much as private players) to seek voluntary options and to participate in voluntary schemes
2. Taking a clear position on recognising voluntary projects as JI projects when Kazakhstan becomes eligible for JI

#### **Actions**

- a. Issue a policy statement to this effect
- b. Establish legal basis in JI approval procedures

### Post Copenhagen Activities

1. Prepare post 2012 options and take anticipated action

#### **Actions**

- a. Examine carefully carbon market tools and options available under a Copenhagen Agreement
- b. Develop a low-carbon strategy and bring carbon mitigation potential in relation with all financial instruments, including carbon market mechanisms, available
- c. Identify which economic sectors would be most affected or influenced by e.g. carbon related import taxes or increased demand, as here likely mitigating or opportunity actions would be taken first.
- d. Find international partner institutions for the strategy development and implementation



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- e. Identify technical assistance and capacity building needs
- f. Integrate existing activities (JI and voluntary) in a future low carbon strategy

### **Actions**

- a. Examine continuation of instruments, blending and transfer options to future mechanisms, where necessary or possible
  - b. Provide a comprehensive roadmap to cover detailed eligibility criteria for mechanisms recognized in post 2012
  - c. Implement pilot projects as soon as possible
2. Depending on the outcome of Copenhagen, enhance coordinated mitigation through bilateral cooperation agreements to ensure bilateral action, cross-country support and recognition of offset credits

### **Actions**

- a. Identify partner countries
- b. Assess potential and areas of cooperation
- c. Prepare stringent benchmarks for the quality of potential offset credits
- d. Structure and negotiate terms of cooperation



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# Introduction

On 8 June 1992 Kazakhstan signed, and on 17 May 1995 Kazakhstan ratified, the UN Framework Convention on Climate Change (UNFCCC), the first multi-national environmental agreement to tackle global warming. Signature of the Kyoto Protocol (KP) followed suit on 12 March 1999 and the ratification act of the Kazakh Parliament was deposited with the Secretary-General of the United Nations as the Depositary of the Protocol on 19 June 2009. On 17 September 2009 the Protocol will come into force for Kazakhstan. The accession to this important international treaty goes along with a confirmation made by the Kazakh Government that Kazakhstan is committed to joining industrialised nations in their effort to limit and/or reduce greenhouse gas emissions (GHG) and to accept a binding and quantified emission limitation of 100% over a 1992 baseline.<sup>1</sup> Kazakhstan has not yet received an allocation of Assigned Amount Units (AAUs) which is a condition for participation in International Emissions Trading (IET) and Joint Implementation (JI). However, in order to effectively mobilise investments in emission reductions at the national level, the Kazakh Government has expressed its intention to participate in both mechanisms (JI and IET).

Prior to this political commitment, Kazakhstan notified the Parties to the UNFCCC that it intends to be bound by the Annex I obligations under the Convention on the dates set out in Table 1. This did not make Kazakhstan a formal Annex I country for the purposes of the Convention, but it meant that Kazakhstan, for the purposes of the Kyoto Protocol, acquired Annex I status.

### Assignment

The European Bank for Reconstruction and Development (EBRD), assisting the Government of Kazakhstan pursuant to the Sustainable Energy Action Plan between them, with its climate change policy, has asked Climate Focus to describe the current and prospective legal position of Kazakhstan under the UNFCCC and the Kyoto Protocol. The objective of this assignment is to explore the options open to the Kazakh Government and the country's private sector to engage in carbon finance activities as soon as possible, taking into account the legal, institutional and economic aspects. The prospective timeframe to be analyzed includes both the Kyoto Protocol commitment period until and including 2012 and the time thereafter. The assignment covers the following four aspects:

- Kazakhstan's current status under the Kyoto Protocol; a thorough analysis of the possibilities for Kazakhstan to benefit from carbon finance, including via JI and IET, domestic and regional emissions trading schemes, or the voluntary carbon market, as applicable. The analysis should review the various options (including the rules for Annex B enlisting) to confirm the country's current status under the Kyoto Protocol and analyse the advantages and disadvantages of the various options, and to recommend strategies that Kazakhstan may adopt in order to

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<sup>1</sup> Letter dated 3 November 2008 from Kazakhstan addressed to the Executive Secretary of the Secretariat of the UNFCCC on information on voluntary quantitative commitments for Kazakhstan for the period 2008-2012, FCCC/CP/2008/5. For all Kazakhstan specific UNFCCC sources and national communications, see Appendix below.



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advance its ability to become a recognised member under the Kyoto Protocol for the current and coming commitment periods, or such other international arrangements that may arise;

- Procedural steps required for Kazakhstan to be able to trade emission reductions under the Kyoto Protocol and to access carbon finance (both domestic and international), including pre- and post-2012, including providing inputs to the design of a technical assistance programme that would help Kazakhstan to increase the chances for JI eligibility and implementing operational approval procedures for JI (in the absence of an Annex B enlisting);
- Strategy and procedural steps, if any, for Kazakhstan to be able to trade emission reductions to access carbon finance (both domestic and international) including pre and post-2012, on voluntary carbon markets should Kyoto Protocol mechanisms be unavailable, or in addition to Kyoto Protocol mechanisms; and
- Indicate possible post-2012 implications for Kazakhstan given the findings of the above and suggest migration paths (e.g. regarding the value of emission reductions under JI, voluntary, domestic, and regional emissions trading schemes).

The scope of the analysis will include not only carbon finance options under the UNFCCC and the Kyoto Protocol, but also voluntary carbon market strategies, including bilateral approaches, outside internationally binding legal regimes. Strategy options for Kazakhstan regarding the upcoming Copenhagen negotiations and the Copenhagen agenda will be discussed.

### Approach

Kazakhstan's position under the UNFCCC is unique and complex. It is not listed as Annex I Party of the Convention but it has taken Annex I obligations through a unilateral declaration on 23 March 2000. This makes it an as-if Annex I Party for the purposes of the Kyoto Protocol. However, Kazakhstan's Kyoto accession status has not yet entered into force. Furthermore, even after the Protocol has entered into force for Kazakhstan, it remains non-listed in the Protocol's Annex B.

In the first part of this report we will review the Kazakh statutory history with the UNFCCC and clarify its current status. To this end, we will first describe the basic division of Annex I country versus developing country Parties under the UNFCCC (1.), then move on to Kazakhstan's various interventions at the international level to position itself in between this strict divide, first regarding its membership in the UNFCCC (2.) and then in the Kyoto Protocol (3.). Finally, we will assess the options Kazakhstan has to engage in the carbon markets, using the framework of the Protocol prior to 2013 and available options post-2012 and, as an alternative, going beyond the international framework (4.). We will complete this analysis with a prospective assessment of risks and options (5.).

In the second part of this report we will look more closely at the carbon market instruments available both within and outside the Kyoto Protocol and make recommendations as to how Kazakhstan would best proceed from where it stands (6.).





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The analysis and the roadmap will be complemented by an examination of the carbon project potential Kazakhstan offers (7). We will conclude this report with a summary of market options and actions Kazakhstan is advised to take in the short (post 2013) and the longer term (post 2012) (8.).



# 1 Annex I and Developing Countries

The UNFCCC with its 192 country Parties applies a conceptual dualism: It distinguishes between “developed country Parties and other Parties included in Annex I” and “developing country Parties”. This allows for the imposition of specific commitments and obligations on richer countries while giving poorer countries the right to financial and technological assistance. Yet the dualist approach fails to account for the fact that a considerable number of countries have difficulties with fitting into this architecture.

Countries that underwent a process of transition to a market economy after the break-up of the Soviet Union in 1991, often referred to as “economies in transition” (EIT), are difficult to capture with the divide of developed versus developing countries. The issue was highlighted by the UNFCCC negotiation group CAC&M (Caucasus countries and Moldova)<sup>2, 3</sup> in a letter to the UNFCCC Secretariat which was presented to the 7th session of the Conference of the Parties to the UNFCCC (COP) in Marrakesh in 2001. The letter reads as follows:

“The CAC&M countries seek a clear definition of the term “developing countries” or a reference to relevant legal texts containing such definition...The term...is not defined by the Convention and does not encompass all the Parties not included in Annex I to the Convention (non-Annex I Parties), since some of these are not considered or do not consider themselves to be developing countries. The CAC&M countries, for example, consider themselves to be countries with economies in transition...”<sup>4</sup>

The COP took note of this letter and invited the Subsidiary Body for Implementation (SBI) to make recommendations thereon to the COP.<sup>5</sup> The SBI discussed the matter at its 17<sup>th</sup> session in New Delhi (2002)<sup>6</sup> and at its 18<sup>th</sup> session in Bonn (2003)<sup>7</sup>. However, ever since, the governing bodies have fallen silent on the matter.

A handful of EIT countries had avoided the problematic affiliation with “developing countries” by taking up Annex I status from the inception of the Kyoto Protocol. Five central and Eastern European countries—Bulgaria, Czechoslovakia<sup>8</sup>, Hungary, Poland and Romania—and six former Soviet republics, Belarus, Estonia, Latvia, Lithuania, the Russian Federation and Ukraine, were listed as Annex I. At the same time, by means of a footnote to the Annex I text, it was acknowledged that these countries were “undergoing

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<sup>2</sup> Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan in the Asian Group and Armenia, Azerbaijan and the Republic of Moldova.

<sup>3</sup> This group is sometimes also referred to as “CACMA” or “CACAM”. CAC&M consists of the UNFCCC member states Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan in the Asian Group and Armenia, Azerbaijan and the Republic of Moldova in the Group of Eastern European countries.

<sup>4</sup> FCCC/CP/2001/12, letter dated 27 July 2001.

<sup>5</sup> Decision 35 CP.7.

<sup>6</sup> FCCC/SBI/2002/7.

<sup>7</sup> FCCC/SBI/2003/1.

<sup>8</sup> Later replaced by Czech Republic and Slovakia.



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the process of transition to a market economy”. While all other Annex I countries were also made Annex II country Parties—i.e. countries with specific (financial) obligations under the Convention—the EIT countries were not. Kazakhstan along with all other former Soviet republics except the Russian Federation, Ukraine, Belarus and the Baltic states stayed outside the Annex I list.



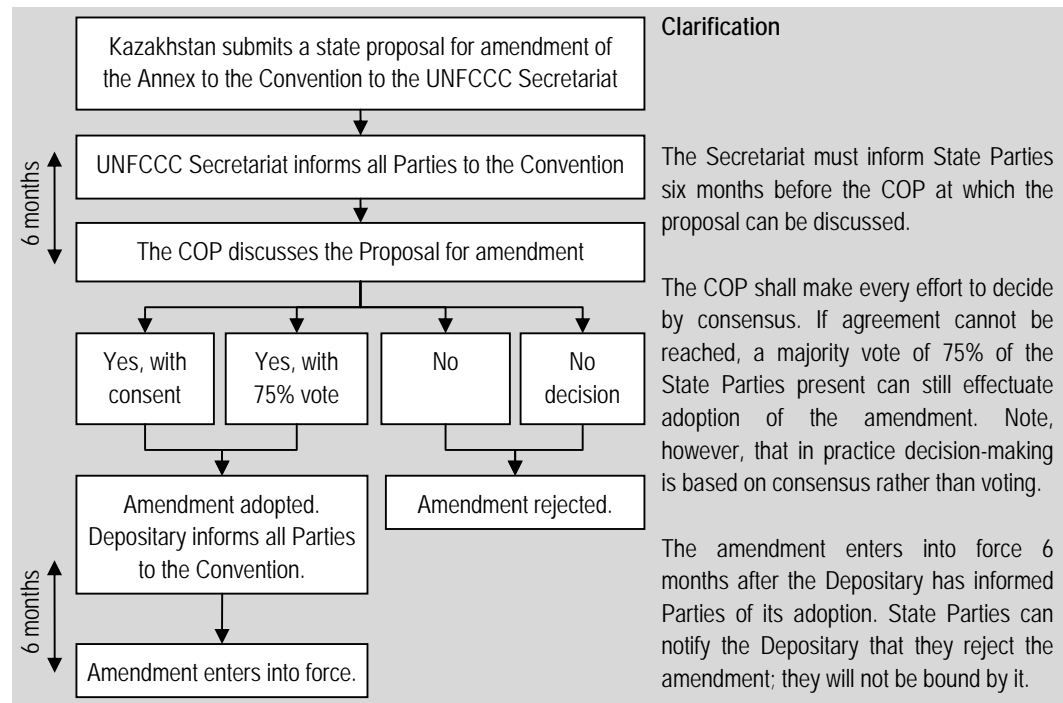
## 2 Kazakhstan’s Status under the UNFCCC

Kazakhstan is not listed under Annex I of the Convention and is not included in Annex B of the Kyoto Protocol. However, since early 1999 Kazakhstan has attempted to challenge this status, first by proposing to acquire formal Annex I status under the Convention, then by unilateral declaration to be bound by the essential Annex I obligations. For an overview of status related communications between Kazakhstan, on the one hand, and other State Parties, COP or other bodies of the UNFCCC see table 1.

### 2.1 Proposal to Amend Annex I

The status Annex I / non-Annex I was never thought to be unalterable. Rather, the Convention foresaw a specific review cycle (Article 4(2f)), to be concluded by 31 December 1998, in which “appropriate” amendments to the lists in Annex I and Annex II would be prepared. However, in order for an amendment to be adopted and to come into force, a new ratification process had to be entered into. Article 16(4) of the Convention is explicit on this point:

“The proposal, adoption and entry into force of amendments to annexes to the Convention shall be subject to the same procedure as that for the proposal, adoption and entry into force of annexes to the Convention in accordance with paragraphs 2 and 3 above.”



**Figure 1: Procedure for amendment of Annex I to the UNFCCC.**



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This leads to the following procedure<sup>9</sup> (see Figure 1): A proposed amendment needs to be transmitted to the UNFCCC Secretariat which in turn transmits the proposed amendment to all Parties. This has to be completed at least six months before the COP meeting that will decide on the proposal's adoption. The COP "shall make every effort"<sup>10</sup> to come to an agreement over the proposal. However, if no agreement is reached, the proposal may be adopted by a three-fourths majority. This is an important treaty modification to the classical approach under international law. Unanimity is not an absolute requirement and a single State Party cannot veto the adoption of an amendment. If all attempts to reach unanimity fail, it is sufficient for the adoption of the amendment proposal that 75% of State Parties—roughly 150 countries—express their consent. Note, however, that in practice the majority vote is a provision that to date has never been applied. If and when COP has taken a decision, it has always been by consent.

Once adopted, the amendment will be communicated by the Secretary General of the United Nations (Depositary of the Convention) to the Parties. The amended annex will enter into force six months after the communication except for those Parties that have notified the Depositary within that period that they do not accept the amendment. Any act of accession or ratification for amendments to annexes is not necessary.

The Annex I was amended through this procedure (consensus) at the 3<sup>rd</sup> session of the COP (1997) when Croatia, Liechtenstein, Monaco and Slovenia were added to the list and when Czechoslovakia was replaced by the Czech Republic and Slovakia.

By note dated 24 April 1999 from the Permanent Mission of the Republic of Kazakhstan to the United Nations, Kazakhstan proposed an amendment to Annex I by requesting the COP "to consider the possibility of joining of the Republic of Kazakhstan to the list of countries contained in Annex I to the UNFCCC".<sup>11</sup> The Kazakh proposal was transmitted to the Parties by unsigned diplomatic note (*note verbale*) dated 3 May 1999. However, after this date, the proposal was not discussed at that year's session of the COP (COP 5) or at any session of the Conference of the Parties thereafter. The proposal was hence never adopted and never entered into force.

**Table 1: Timeline of Events: Kazakhstan within UNFCCC.**

Event	Date
Kazakhstan signs UNFCCC	8 June 1992
Ratification of UNFCCC by Kazakhstan	17 May 1995
Kazakhstan signs the Kyoto Protocol	12 March 1999
Kazakhstan proposes amendment to Annex I of the UNFCCC	24 April 1999
Kazakhstan submits voluntary national communication	30 May 1999
Kazakhstan makes a unilateral declaration under Article 4(2g) UNFCCC	23 March 2000
Kazakhstan informs COP on the 1992 base year	14 October 2006
Kazakhstan makes voluntary quantitative commitment	3 November 2008
The President of the Republic signs the Kyoto Protocol ratification act	26 March 2009

<sup>9</sup> Article 16(2), Article 15(2) and (3) and Article 16(3) UNFCCC.

<sup>10</sup> Article 15(3) UNFCCC.

<sup>11</sup> Published together with Document FCCC/CD/1999/2 of 28 May 1999.



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Kazakhstan proposes amendment to Annex B of the Kyoto Protocol	29 May 2009
Kazakhstan requests registration of Assigned Amount and announces the upcoming submission of its Annex I compatible GHG inventory	29 May 2009
UNFCCC Executive Secretary refuses to circulate the amendment among State Parties	12 June 2009
Kazakhstan deposits the Kyoto Protocol ratification act in New York	19 June 2009
Kazakhstan confirms its Annex B amendment proposal	26 June 2009 <sup>12</sup>
UNFCCC Executive Secretary confirms his refusal to circulate the amendment among State Parties	29 June 2009
Kazakhstan reiterates its request to circulate the Annex B amendment and set it on the COP 15 agenda	3 July 2009
UNFCCC Executive Secretary confirms once more his rejection of the Annex B amendment proposal <sup>13</sup>	15 July 2009
Informal working session Bonn: Kazakhstan promoted its position through a range of bilateral talks	10-14 August 2009
AWG-KP 9 and AWG-LCA 7, Bangkok: Kazakhstan will organise side-event	28 September – 9 October 2009
Kazakhstan's ratification act entered into force	17 September 2009
COP 15 (Copenhagen)	7-18 December 2009

### 2.2 Kazakhstan's Unilateral Declaration of 23 March 2000

After 1999, Kazakhstan no longer sought formal Annex I status under the Convention. Instead, by notification of 23 March 2000 the Kazakh Government informed State Parties that it intended to be bound by Article 4(2a) and Article 4(2b) of the Convention.<sup>14</sup> Such notification is foreseen under Article 4(2g) of the Convention. Under this provision any Party to the UNFCCC not having Annex I status may notify the Depositary “that it intends to be bound” by the central obligations that the Convention holds for Annex I Parties: Article 4(2a) and Article 4(2b). Upon notification, the Depositary duly informs all signatories and other Parties, and in the present case regarding Kazakhstan the COP, at its 8<sup>th</sup> plenary meeting on 9 November 2001 (COP 7), took note of the Kazakh declaration.<sup>15</sup>

With this, Kazakhstan became materially bound by the Annex I obligations expressed in Article 4(2a) and Article 4(2b) of the Convention while retaining non-Annex I status for all other purposes under the Convention. Thus, as of 23 March 2000 Kazakhstan is under

<sup>12</sup> In his letter of 29 June 2009 Executive Secretary Yvo de Boer mentions this date for the confirmation letter from Kazakhstan. However, Climate Focus was transmitted the copy of a confirmation letter that was dated 30 June 2009. It is unknown to us whether the letter dated 26 June and the letter dated 30 June are identical or not.

<sup>13</sup> In his letter Executive Secretary Yvo de Boer mentions three letters from Kazakhstan, one dated 2 July 2009, another dated 7 July 2009 and a third letter dated 13 July 2009. Climate Focus has not been provided copies of these letters.

<sup>14</sup> Reference to date and substance of the letter in FCCC/SBI/2001/L.9 and FCCC/CP/2001/Add. 4, page 42).

<sup>15</sup> FCCC/CP/2001/Add. 4, page 42).



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an obligation to adopt national policies and take corresponding measures on mitigation of climate change (Article 4(2a) UNFCCC), and to prepare and submit periodic national communications on (i) their mitigation action and (ii) the projection of anthropogenic emissions by sources and removals by sinks of greenhouse gases (Article 4(2b) UNFCCC). The COP confirmed this obligation by requesting Kazakhstan, in its conclusions made at the occasion of COP 12 (2006), to submit its national communication and annual inventories in accordance with the relevant guidelines adopted by the COP for national communications and annual inventories of Annex I Parties.<sup>16</sup> As will be relevant further below in this Report, Kazakhstan has yet to fulfil these requirements.

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<sup>16</sup> FCCC/CP/2006/5.



### 3 The Kyoto Protocol

The Kyoto Protocol was adopted in 1997 within the framework of the UNFCCC. To date it has 186 parties whose ratification document has been deposited. Kazakhstan signed the Protocol in 1999 and deposited the ratification act with the Secretary-General of the United Nations as the Depositary of the Protocol in June 2009. The Protocol submits the Annex I Parties of the UNFCCC (except Belarus<sup>17</sup>) to specific emission reductions commitments for the period 2008 to 2012 (inclusive) and introduces as a means of GHG emissions accounting the so called “assigned amounts” (Article 3(1)). The reduction targets are hence expressed as a percentage of a country’s “assigned amount” of total GHG emissions. To achieve their reduction commitments Annex I Parties may resort to the so-called flexible mechanisms of Article 6 (“Joint Implementation” or “JI”), Article 12 (“Clean Development Mechanism” or “CDM”) and Article 17 (“International Emissions Trading” or “IET”). The CDM involves the creation of creditable, Certified Emission Reductions (CERs), generated through projects in developing countries; the JI turns AAUs into specific project-based Emission Reduction Units (ERUs) that are tradable independently. IET refers directly to the trade with AAUs.

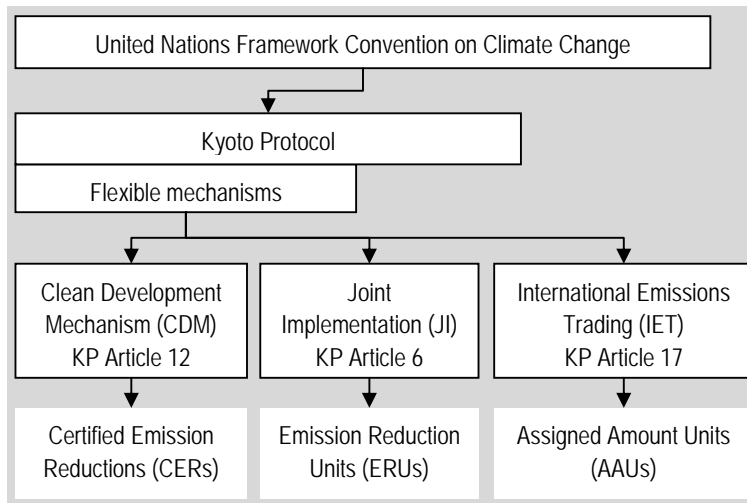


Figure 2: The UNFCCC, Kyoto Protocol and the flexible mechanisms.

It is important to note that the meaning of “Annex I Party” under the Kyoto Protocol is slightly different from the meaning under the Convention. Article 1(7) KP clarifies:

“Party included in Annex I’ means a Party included in Annex I to the Convention, as may be amended, or a Party which has made a notification under Article 4, paragraph 2(g) of the Convention.”

It follows that Kazakhstan on the basis of its specific notification under the Convention (see section 2.2) is treated as Annex I Party in the context of the Kyoto Protocol. This was confirmed by the conclusions of COP 7 of 9 November 2001.<sup>18</sup> *Kazakhstan cannot act as*

<sup>17</sup> All Annex I Parties except Belarus are listed “Annex B” to the Protocol.

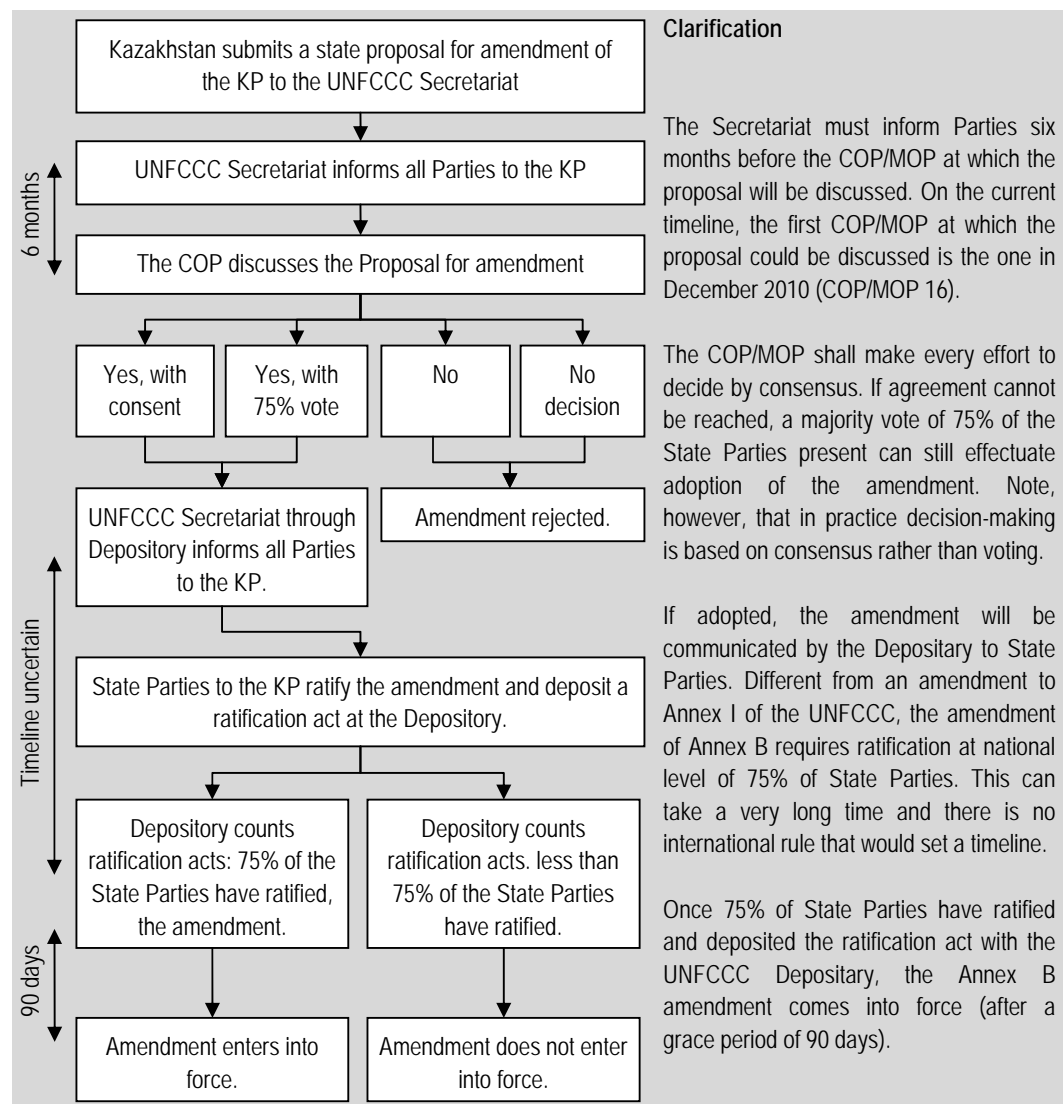
<sup>18</sup> FCCC/CP/2001/13/Add.4, page 42.





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*host country for a CDM project*; only Parties not included in Annex I may benefit from CDM project activities (Article 12(3a)). Yet as Annex I country under the Kyoto Protocol, Kazakhstan may generally engage in Article 6 (JI) projects and in Article 17 (IET) trading. In order for the Kyoto Protocol to take effect for Kazakhstan, ratification and entry into force of the Protocol are essential (Article 24(1)). For the purposes of international law, ratification takes effect only from the date the ratification documents between the Parties or from the deposit of the ratification document with the Depository (Article 16 Vienna Convention 1969). The Kazakh Government deposited the Kyoto ratification act with the Depository on 19 June 2009. In application of Article 25(3) KP, entry into force occurs 90 days from the date of ratification, i.e. 90 days from 19 June 2009. Entry into force of the Kyoto Protocol for Kazakhstan thus occurred on 17 September 2009.





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### Figure 3: Procedure for amendment of Annex I to the Kyoto Protocol.

Note: The procedure for amendment of the Kyoto Protocol has similarities with the procedure for amendment of Annex 1 to the UNFCCC as described in Figure 1. The key difference is that an amendment of an Annex to the Kyoto Protocol requires ratification, whereas for an amendment of an Annex to the UNFCCC, a COP decision is sufficient.

### 3.1 The Missing Annex B Status

Annex I status alone does not enable a Party to the Kyoto Protocol to participate in the Kyoto flexible mechanisms. Article 6 and Article 17 KP in conjunction with the relevant COP decisions set specific requirements which are mandatory and need to be met before a State Party can engage in either JI projects or AAU trading. The most fundamental and *sine-qua-non* requirement for both mechanisms is that the country concerned has a commitment inscribed in Annex B of the Protocol. Article 6(1) reads:

“For the purpose of meeting its commitment under Article 3 [which in turn refers to Annex B], any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from [JI] projects...”

Article 17 KP reads similarly:

“The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3.”

Kazakhstan is not listed in Annex B and has neither an Assigned Amount nor an emissions limitation or reduction target. *It is therefore currently effectively excluded from all three flexible mechanisms of the Kyoto Protocol because the CDM accepts non-Annex I countries only as host countries and JI and the IET require Annex B listing, i.e. approved Assigned Amounts.*

#### **Box 1: Belarus Example**

The procedure to change or add an inscription in Annex B is thus fundamentally different from the procedure to amend Annex I of the Convention. While the Annex I approach restricts itself to an amendment adoption at COP level, the Annex B procedure requires ratification by 75% of State Parties to the Protocol. The ratification path is lengthy and cumbersome and it is not surprising that thus far not a single Annex B amendment has taken effect. The country that has come closest to an amendment to Annex B so far is Belarus. Belarus put forward a request to be included in Annex B to COP 12 (Nairobi) in 2006. By decision 10/CMP.2 the COP/MOP approved the request and adopted an amendment to Annex B which inscribes Belarus with a commitment target of 92% over 1990 baseline over the commitment period 2008-12. Belarus ratified the amendment on 30 April 2007 and 13 other State Parties followed suit. However, the ratification acts of more than 130 Kyoto Protocol State Parties are still outstanding for the Belarus amendment to enter into force.

It can be expected that Kazakhstan will be in at least as good a position as Belarus, if not better, to lobby among State Parties and advocate ratification actions around the globe. Yet the challenge in organizational terms alone will be great.



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Listing in Annex B is only possible through an amendment of the annex. The amendment of Annex B, however, is different from annex amendment under the UNFCCC as described in section 2.1 above. Article 21(7) stipulates:

“Amendments to Annexes A and B to this Protocol shall be adopted and enter into force in accordance with the procedure set out in Article 20, provided that any amendment to Annex B shall be adopted only with the written consent of the Party concerned.”

### Ratification Requirement

Article 20 in turn sets out the procedures for amendments to the text of the Protocol itself (see Figure 3). It resembles the procedures established for the *text* of the UNFCCC (i.e. not: annex) amendment, thus entails communication of the proposal six months ahead of the COP session; efforts to seek consensus; three-fourths majority adoption; communication to the Parties; and notably the need to ratify the amendment by the Parties. Only once three fourths of the Parties to the Protocol—roughly 150 countries—have deposited their instruments of ratification, can the amendment come into force (Article 20(4)).

### 3.2 Annex B at Copenhagen

By letter of 29 May 2009, Kazakhstan transmitted the proposal to amend Annex B to henceforth include Kazakhstan with a 100% commitment target over 1992 levels to the Executive Secretary of the UNFCCC. Together with the transmission Kazakhstan requested the Executive Secretary to communicate the proposal among State Parties and to set a related item on the provisional agenda for COP 15 in Copenhagen (7 to 18 December 2009). However, the Executive Secretary chose not to communicate the proposal among State Parties. Instead, he notified the Vice-Minister of Kazakhstan by letter of 12 June 2009 that he saw himself not in the position to accommodate the Kazakh request because Kazakhstan’s Protocol ratification had not yet taken effect:

“Although the Republic of Kazakhstan is a signatory to the Kyoto Protocol, it is, at this time, not a Party to the Protocol. Therefore it is not possible for Kazakhstan to propose either the inclusion of an item on the provisional agenda of the CMP [=COP/MOP], or an amendment to Annex B to the Kyoto Protocol. For the same reason, the secretariat is not in a position to accommodate the request from Kazakhstan to communicate the text of the proposed amendment to Annex B to the Kyoto Protocol to Parties to the Protocol and signatories to the Convention...”

Kazakhstan responded instantly by communicating the ratification act to the Depositary where it was registered on 19 June. With letter of 26 June, Kazakhstan reiterated its request of 29 May. With letter of 29 June 2009, the UNFCCC Executive Secretary refused again to act on the request. He wrote:

“As regards your proposal I wish to state as follows. Article 21, paragraph 2, of the Protocol provides that ‘any Party may make proposals for an annex to this Protocol’. Although this provision allows Parties to propose annexes and amendments to annexes to the Protocol for adoption by the



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CMP, the consideration and adoption of such proposals is subject to certain procedural requirements being fulfilled. Thus, Article 21, paragraph 3, provides that ‘the text of any proposed annex or amendment to an annex shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption.’

Noting that the exact day six months before the last day of COP 15 is 17 June 2009, the Executive Secretary concludes that the renewed amendment proposal put forward by Kazakhstan was not admissible for circulation and no eligible agenda point for Copenhagen.

While the legal argument raised by the Executive Secretary is formally correct, there are a number of arguments against the position of the Executive Secretary. Namely that it ignores the fact that as part of the preparation of the Copenhagen agenda a number of amendment proposals regarding the Protocol, including its Annex B, have been submitted in due course by other Parties. The issue is hence on the Copenhagen agenda anyway. At the same time, it is a long established practice that an amendment proposal can be modified after its initial circulation since it is the very purpose of the amendment procedures to prepare informed negotiations, not to discourage them in their entirety. In this case, the governing provisions come from the draft Rules of Procedures as applied by CMP (Article 10 (d), Article 36 and Article 46). They seem to allow the communication of Kazakhstan’s motion and the inclusion of a related agenda point even after 17 June 2009.

On this basis, perhaps diplomatic intervention by another Protocol member or members on behalf of Kazakhstan might lead to a new consideration of the matter at hand by the Executive Secretary, and eventually to the circulation of the amendment proposal and the inclusion of a Kazakh agenda point for COP 15. It is noted, however, that following interventions from Kazakh Vice-Minister Sadvakasova of 2 and 7 July 2009, the Executive Secretary has confirmed his negative decision by letter of 15 July.

In order to persuade the Secretary’s argument that the agenda item needs to be put forward by a Party to the Kyoto Protocol, Kazakhstan may consider coordinating with another country that re-submits its proposal to the UNFCCC. If diplomatic channels were to succeed to have the Executive Secretary reconsider, discussion and amendment of the proposal could occur in December 2009, though there is no precedent for this. This could pave the way for the ratification of Annex B by State Parties at a date thereafter.

### 3.3 Kazakhstan’s Voluntary Commitments—100% over 1992 as Base Year

Despite the missing Annex B status, Kazakhstan has had a proactive record of UNFCCC engagement since the Convention’s inception in 1992, not least because it is exposed to climate change more than most countries, facing significant land degradation, desertification and deficit of fresh water.<sup>19</sup> The Kazakh Government has consistently

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<sup>19</sup> Kazakhstan has experienced a rise in average temperature of 1.5°C over the past 100 years (COP 12 - Statement by H.E. Mr. Nurlan A. Iskakov, Minister of Environment Protection of Kazakhstan, at the joint high level segment of the Twelfth Conference of the Parties and the second session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol of the United Nations Framework Convention on Climate Change, STMT/COP12/1/044) and a KazNIMOLK



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advocated ambitious global mitigation goals, while considering quantified emission reductions of its own. In a statement to the UN General Assembly of 24 November 1997, the Ministry of Foreign Affairs of Kazakhstan announced Kazakhstan's readiness "to play an active part in discussions of measures to reduce and stabilise emission of greenhouse gases over the period up to 2005-2010" and his country's support of initiatives "to establish an international emissions budgets market which would make provision for an equitable partnership approach by developed and developing countries to issues of the prevention of a negative impact on the Earth's climate".<sup>20</sup>

At COP 7 the Conference noted "the interest expressed by Kazakhstan in engaging in negotiations with a view to defining a quantified emissions limitation or reduction commitment."<sup>21</sup> In a statement to COP 12 in 2006, Minister of Environment Mr. N. Iskakov announced that Kazakhstan at the time was "reviewing" a quantitative commitment for the period 2008-12 of 100% over a baseline year of 1992.<sup>22</sup> Finally, by letter to the UNFCCC Secretariat of 3 November 2008, Kazakhstan proposed ("Proposal for UNFCCC Parties' Attention") a voluntary reduction commitment of an annual 100% of 1992 base year emissions over the period 2008-12.<sup>23</sup>

The reference to 1992 as baseline year goes back to a Kazakh communication to State Parties of the Kyoto Protocol dated 14 October 2006 where it stated its wish to use 1992—the first full calendar year after the dissolution of the Soviet Union and Kazakhstan becoming independent—as its base year for purposes of the Convention. This is technically to be understood in connection with Article 3(5) KP. While the general baseline year for Annex I Parties is 1990, EIT countries may apply other reference years:

"Any other Party included in Annex I undergoing the process of transition to a market economy which has not yet submitted its first national communication under Article 12 of the Convention may [...] notify the Conference of the Parties serving as the meeting of the Parties to the Protocol that it intends to use an historical base year or period other than 1990 for the implementation of its commitments under the Article. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall decide on the acceptance of such notification."

COP 12 (Nairobi, 2006) took note of the Kazakh submission but did so in a language that avoided the word "acceptance" or any of its synonyms. This argues for caution regarding the international acceptance of the 1992 base year as proposed by Kazakhstan and the claim made in the 2009 national communication<sup>24</sup> that among the Interdepartmental Commission's listed achievements of "setting the base year (1992)" may still be disputed

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climate evaluation study reckons that Kazakhstan might face a decrease in cropping capacity by 44-51% (spring wheat) and by 12-15% (winter wheat), respectively; a 27-56 day increase of hot period which would reduce sheep breeding by 11-19% and lamb litter by 20-26%; water flow reductions may be in the range of 24-26% (Tobol River) and 23-29% (Ulba and Uba Rivers), cf. <http://www.climate.kz/eng/?m=html&cid=20>.

<sup>20</sup> General Assembly A/C.2/52/11 of 1 December 1997.

<sup>21</sup> FCCC/CP/2001/13/Add.4, page 42.

<sup>22</sup> See footnote 13.

<sup>23</sup> FCCC/CP/2008/5.

<sup>24</sup> <http://unfccc.int/resource/docs/natc/kaznc2e.pdf>.



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at the international level. For the purposes of voluntary commitments the international acceptance of the Kazakh base year, of course, is of no imminent relevance.

From a strategic perspective the details of voluntary mitigation actions are of fundamental importance. A State Party is dependent on the support of around 150 other State Parties representing 75% thereof for a Treaty amendment. It actively needs to promote its bid and has to create trust among State Parties that the particular motives behind the amendment proposal are sincere and do not compromise in any way the common interest of all. In the field of climate change and mitigation action, the most promising way to do this is by taking on voluntary commitments to reduce emissions in a measurable, reportable and verifiable way and to hold oneself accountable in a transparent and auditable manner.



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# 4 The Path Ahead

Kazakhstan has a number of strategic options and choices to move on from its current position. We will summarise them below.

### 4.1 Annex B Amendment and JI Action Pre-2013

Kazakhstan may attempt to become an Annex B Party under the Kyoto Protocol as soon as possible and to fulfil all requirements to receive an Assigned Amount and start preparation of engaging in JI ahead of a new commitment period post-2012.

#### The Agenda

First, the Kazakh proposal needs to be considered by the COP serving as meeting of the Kyoto Protocol (CMP). As discussed herein, despite the six-month-rule, a Kazakh Annex B amendment could be treated at COP 15 in December 2009, though no precedent exists regarding the applicability of the rule to a case such as this one. The Executive Secretary of the UNFCCC for now refuses to set an agenda that includes discussion and vote on the Kazakh proposal. However, diplomatic intervention by asking for support from other Kyoto Protocol members might overcome that barrier. If it does not, Kazakhstan is advised to seek adoption at the next ordinary (December 2010) or extraordinary (an additional meeting mid 2010 is discussed if COP 15 does not bring the much hoped for Copenhagen agreement). The UNFCCC Secretariat should be notified of this intention as soon as the Copenhagen agenda is final.

#### Favourable Vote on Surplus AAUs

Second, CMP must adopt a favourable decision on the matter. Here political considerations argue for adopting a sophisticated outreach strategy. For one thing, post-2012 negotiations, which are now the centre piece of global negotiations among climate change experts and politicians, have reached a nervous level and a new deal is still far away. It is possible that State Parties will agree in Copenhagen on no more than to continue negotiations in 2010. In these highly charged times, State Parties might have little appetite to complicate matters by adding to their agenda a proposal that does lead to additional Assigned Amounts in the Kyoto Protocol's first commitment period. Kazakhstan's voluntary commitments point to a considerable surplus of AAUs at least for the period 2008 to 2012 (see Figure 4). Negotiators have difficulties with treating large AAU surpluses elsewhere on the globe (especially in Russia and Ukraine, but also in the EU) and in particular with the expectation that these units may be banked into the next commitment period.

#### Mitigation Strategy

Given the uncertain path and timing to achieve JI status, it is viewed as essential that Kazakhstan invests efforts in building alliances and seeks broad support for its case as soon as possible. This is best undertaken by linking the proposed emission limitation target with a more ambitious set of reduction targets for the period after 2012. Another strategy to mitigate the risk consists in reducing the absolute target of 100% over 1992 into an emission reduction target. For the first commitment period the Russian Federation and Ukraine succeeded in negotiating 100% over baseline targets although emission projections were far below that rate. Data from the 2009 Kazakh national



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communication show as recently as 2005 that the emissions level was about 30% below 1992 emissions. At the same time, the emission forecast (MARKAL modelled) establishes a “base scenario” emission curve under which the 1992 emissions level would be reached by 2016; when counting in expected modernisation of technologies, 1992 levels under the model would be reached by 2024 (see Figure 4). These figures do not yet reflect domestic climate change mitigation actions. Furthermore, and especially with a view to the current world recession which will have an impact for years to come, the growth indicators used for these forecasts<sup>25</sup> may prove too optimistic. *On this basis it is assumed that it will not be without difficulties for Kazakhstan to convince the international community that it should be allocated an Assigned Amount that would include a substantial amount of surplus AAUs.*

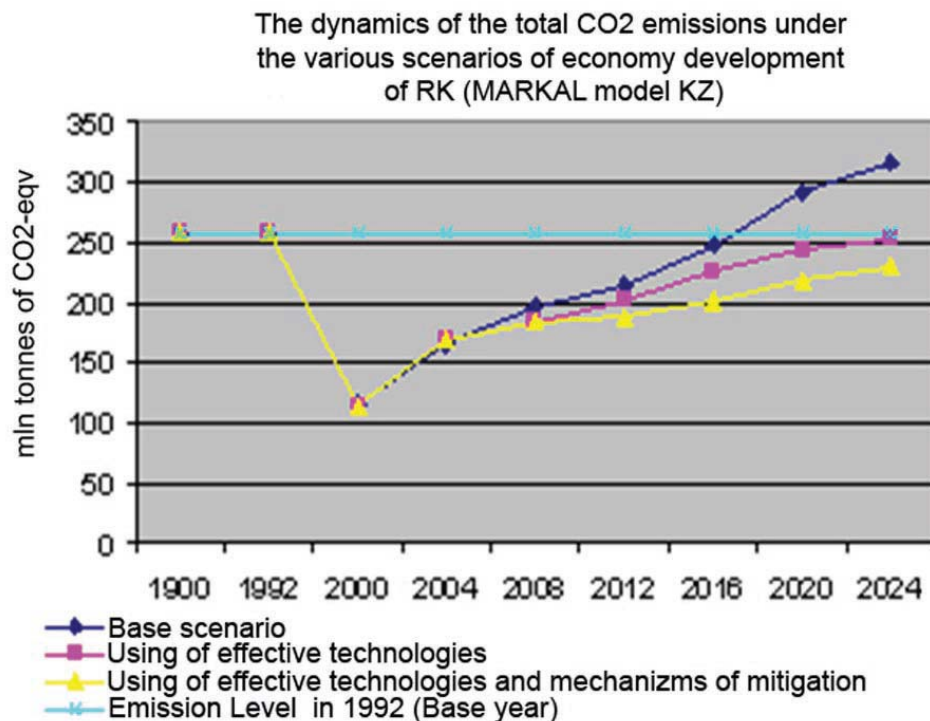


Figure 4: Forecast of Kazakh national emissions

Source: National Communication 2009, page 85.

As a consequence, it seems all the more important that Kazakhstan continues on the path of voluntary action that demonstrates to the world that Kazakhstan is a committed partner in tackling climate change. It would send a powerful signal around the world, if Kazakhstan did not restrict itself to stabilising emissions at 1992 level but to effectively reduce them. The example of Belarus is once again of interest in this context. Belarus proposed a commitment target of 92% over baseline. This effectively sets the country apart from the two countries that are most prominently associated with hot air, the Russian Federation and Ukraine, whose commitment targets for the current commitment period are 100%. Kazakhstan appears better positioned to gain widespread support should it adopt a similarly ambitious commitment.

<sup>25</sup> 10% for 2012; 12% for 2018; 14% for 2024, Kazakh National Communication (2009), page 84.





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### Ratification Process

Third, 75% of the State Parties to the Kyoto Protocol have to ratify the adopted proposal and deposit it before 2013. The Kazakh Government needs to tackle the issue of gathering more than 150 Parties in support of its amendment with the utmost zeal and take the highest efforts to lobby among governments to treat the matter with priority. A way of facilitating the ratification is to achieve that the Kazakh amendment forms part of a Copenhagen agreement which will be submitted to ratification of Parties to the UNFCCC and the Kyoto Protocol anyway.

### Acquiring the Assigned Amount and Technical Readiness

The technical requirements for Kazakhstan's JI participation have to be met before Kazakhstan can engage in JI and IET. In this respect, Kazakhstan has to prepare an initial communication (or initial report). This document is required under Article 7(4) and Decision 13.CMP 1. It serves to facilitate the calculation of its Assigned Amount pursuant to Article 3, paragraphs 7 and 8, for the commitment period and to demonstrate its capacity to account for its emissions and Assigned Amount. The initial report should include complete inventories from 1990 to the most recent year available, calculation of its Assigned Amount and commitment period reserve and descriptions of its national system and registry.<sup>26</sup> After the submission of the initial report, the UNFCCC appoints an independent review team and the Compliance Committee has 16 months to trace any defects or irregularities in the communication. After this period and on the condition that the Compliance Committee has not made a non-eligibility notification, the Party concerned has its Assigned Amount recorded (Decision 13.CMP 1, paras 9 and 10) and it is deemed JI eligible (Decision 9.CMP 1, para 3). The preparation of this document should thus have highest priority.

### Project Approval Procedures

Kazakhstan will also need to set up a domestic project approval procedure. Decision 9 CMP.1 states that Parties involved in JI must inform the UNFCCC Secretariat of:

“[their] national guidelines and procedures for approving Article 6 projects, including the consideration of stakeholders' comments, as well as monitoring and verification.”

### Anticipated JI Action

Provided that Kazakhstan is (i) inscribed in Annex B, (ii) its Assigned Amount is recorded, (iii) Letter of Approval procedures are in place, and (iv) Kazakhstan proves JI eligible prior to 31 December 2012, it may fully and independently engage in JI, verifying additional Article 6 projects and issuing the appropriate quantity of ERUs in accordance with Decision 13.CMP 1 back to the beginning of the commitment period (January 1, 2008). This individual JI engagement where international institutions are not involved is called JI Track 1.

As long as an Annex B Party does not meet all JI eligibility requirements, it may still engage in JI activities but only in a subordinate framework. The JI Supervisory Committee, an international body, will preside over the verification procedure and will decide on the quantity of convertible ERUs. This subordinate JI engagement is called JI

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<sup>26</sup> FCCC/KP/CMP/2005/8/Add.2, page 25-26, paragraph 7 and 8.



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Track 2. Note that, as a minimum requirement for Track 1 and Track 2 alike, an Annex B Party has to have in place a recorded Assigned Amount and a registry. Again the initial report comes into play here. The Assigned Amount can only be recorded following the calculation in the initial report and its review by the Compliance Committee.

There is nothing in the international regulations which forbids that JI projects commence prior to a Party's JI eligibility. Consequently, for a project whose additional emission reductions are verifiable, ERUs may be issued for the whole 2008-2012 commitment period. It is essential, however, that each project complies with the existing JI standards.

### Early JI and future AAUs

The option of early JI has its merits even in the event that Annex B inscription, Assigned Amount allocation and JI eligibility will not be reached prior to 2013. Again, the practice of pre-2008 JI action can serve as an example here. Several State Parties had agreed that they would recognise JI project activities before 2008 and issue ERUs or AAUs for the pre-2008 project implementation from the Assigned Amount that would be issued for the period 2008-2012. Verified emission reductions as a result of early action from governmental buyers can be rewarded with AAUs while early action from private buyers can also be rewarded with ERUs while using Track 1.

This model could be used for projects in Kazakhstan. When approving domestic JI projects, Kazakhstan could commit to the issuance of ERUs or AAUs regardless of whether the country receives an Assigned Amount for the period 2008-12 or only for the period after 2012. This would no doubt stimulate international investor interest and JI action on the ground and the AAU surplus expected even for the next commitment period appears to allow to that such government-backed carbon finance model be implemented.

## 4.2 JI Action outside Annex B: The Russian Proposal

Alternatively or in parallel to formal Annex B inscription, Kazakhstan may choose to pursue a policy line which has become known as the Russian Proposal. During COP 12 in Nairobi (2006), the Russian Federation initiated a discussion on procedural and steps for non-Annex B countries to assume "Voluntary Commitments" and to allow them to engage in the Kyoto Protocol flexible mechanisms and to meet any commitment put forward.<sup>27</sup> During 2007 a workshop was held on the subject and a variety of countries (Annex B and non-Annex B Parties) submitted their views.<sup>28</sup> From 10 submissions, at least 5 backed the initiative, while the Portuguese submission for the EU and the South Korean submission expressed their appraisal but stated that further discussion on the issue was needed.<sup>29</sup> It is not clear whether the Russian Federation or any other country is planning on introducing the item in the Copenhagen agenda but the involvement of COP would be needed to implement the initiative and to clarify issues that have remained open (legal, political and operational). Kazakhstan is advised to consider advocating action to be taken

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[http://unfccc.int/files/meetings/workshops/other\\_meetings/application/pdf/rusproposal\\_en.pdf](http://unfccc.int/files/meetings/workshops/other_meetings/application/pdf/rusproposal_en.pdf) (informal translation).

<sup>28</sup> <http://unfccc.int/resource/docs/2007/cmp3/eng/misc02.pdf> and <http://unfccc.int/resource/docs/2007/cmp3/eng/misc02a02.pdf>.

<sup>29</sup> Reservations came from China and India.



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by State Parties and to consider raising the issue at COP 15 in Copenhagen itself or a subsequent COP.

### 4.3 Voluntary Emission Reduction Action

In the absence of or prior to JI activities, the voluntary carbon market offers a variety of options for action and will thus be of interest for Kazakhstan. Voluntary or verified emission reductions (VERs) are project-based emission reductions that are mainly used by companies in industrialised countries without compliance targets to voluntarily offset their emissions. Differences of the voluntary against the compliance market are a simplified registration process and lower transaction costs, lower prices and the illegibility for carbon offsets under the Kyoto Protocol or any other regulatory scheme. Similar to emission reduction certificates from other schemes, one VER is equivalent to one ton of carbon dioxide. In terms of value, the voluntary carbon market is with EUR 283 million in 2008, much smaller than the primary JI and CDM markets with USD 4,850 million<sup>30</sup>. The voluntary market has experienced growth over 2008, while the CDM and JI markets declined.

In order to increase transparency, quality assurance and standardisation of voluntary carbon offsets, a number of standards have been developed over recent years. The standards more or less follow the basic model of the CDM/JI, such as the principle of additionality, but differ in their focus, eligibility criteria, stringency, and project types covered.

The voluntary carbon market is regulated by different standards and typically operates in areas and sectors that do not face obligatory reduction targets. There are various standards in the voluntary markets. Some of these standards also provide registry services. The more important standards include the Voluntary Carbon Standard (VCS), the Gold Standard and the Climate Action Reserve (CAR). The majority of the projects in these standards are located in non-Annex I countries or countries that are not eligible for any type of emission trading under the Kyoto Protocol, for example, Turkey and the United States.

**Table 2: Overview of the main voluntary carbon market standards.<sup>31</sup>**

Standard	Market Share	Projects	Main host countries	Main project types
Voluntary	48%	76 registered	China (24), Brazil (25),	Hydro (15), Wind (13), manure

<sup>30</sup> World Bank, State and Trends of the Carbon Market 2009 (Washington DC, May 2009).

<sup>31</sup> Gold Standard registry: <https://gs1.apx.com/myModule/rpt/myrpt.asp>, accessed 30 June 2009.

VCS registry: <https://vcsprojectdatabase1.apx.com/myModule/rpt/myrpt.asp?r=111>, accessed 30 June 2009.

Climate Action Reserve: <https://thereserve1.apx.com/myModule/rpt/myrpt.asp?r=111>, accessed 30 June 2009.

American Carbon Registry: [http://www.americancarbonregistry.org/carbon-](http://www.americancarbonregistry.org/carbon-registry/projects/project-list/acr_atct_topic_view?b_start:int=0&-C=)

[registry/projects/project-list/acr\\_atct\\_topic\\_view?b\\_start:int=0&-C=](http://www.americancarbonregistry.org/carbon-registry/projects/project-list/acr_atct_topic_view?b_start:int=0&-C=), accessed 30 June 2009.

Ecosystem Marketplace & New Carbon Finance, State of the Voluntary Carbon Markets: fortifying the foundation (May 2009, New York). This source has been used for market shares and information on CCX.



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Carbon Standard (VCS)			US (10), India (8), Thailand (5)	management (9), waste water treatment (6)
Gold Standard	12%	104 in the pipeline, 23 registered	Turkey (45), China (21), India (4) Taiwan (3), US (3)	Wind (45), small hydro (20) bio-energy (13), energy efficiency (10)
Climate Action Reserve (CAR)	10%	54 in the pipeline, 8 registered	All projects are located in the US.	Landfill gas (29), Manure management (12), Forestry (9)
American Carbon Registry	9%	22 projects	US (19), Bolivia (1), El Salvador(1), Nicaragua (1)	Landfill gas (10), Carbon Capture and Storage (5)
Chicago Climate Exchange (CCX)	3%	Unknown	Coal Mine Methane (30%), Agriculture (16%), Forestry (22%), renewable (13%)	US/Canada (60%), Asia (19%), South America (21%)

### 4.4 Bilateral Agreements

Apart from these international schemes, bilateral agreements between Kazakhstan and third party countries are an option to seek carbon finance support for emission reduction projects. The pre-Kyoto CDM agreements between some European countries and various developing countries may serve as a precedent here.<sup>32</sup> These agreements allowed As-if-CDM transactions in the absence of a valid international framework. The same model could be used for As-if-JI activities in Kazakhstan. Another example of the importance of bilateral arrangements is the bilateral arrangement being currently negotiated between the United States and China.

### 4.5 Post 2012

The situation for Kazakhstan after 2012 is a lot less complex and doubtless more promising with respect to an Annex B inscription. New commitments for all Annex I Parties and possibly non-Annex I Parties will be discussed at COP 15 in Copenhagen. In the run-up to this post-Kyoto, Kazakhstan has a natural claim to be considered for Annex B inscription. Provided JI as a mechanism survives—and nothing would currently point to an elimination of this mechanism—Kazakhstan will be able to calculate its Assigned Amount for the next commitment period and to fulfil the eligibility criteria to commence registration and ERU issuance as soon as possible.

However, whether or not the Kazakh Government will achieve the envisaged target of 100% over a 1992 baseline again is another issue. This will again largely depend, on the one hand, on verifiable emission projections, emission reduction potential and reduction costs, and on the other hand, on negotiation strategies and alliances in Copenhagen.

<sup>32</sup> For Dutch examples see <http://www.vrom.nl/pagina.html?id=37545>: The Dutch Government concluded a range of Memoranda of Understanding prior to the entry into force of the Kyoto Protocol. All agreements made reference to the Protocol and included a firm commitment to the terms of it.



## 5 Conclusions

The current position of Kazakhstan under the UNFCCC and the Kyoto Protocol may be summarised as follows:

1. Kazakhstan signed and ratified the UNFCCC and is a State Party as of right.
2. Kazakhstan is not an Annex I Party to the UNFCCC yet it has made a unilateral declaration to the effect that it is bound by the Annex I Parties' core obligations, namely:
  - a. to adopt national policies and take corresponding measures on mitigation of climate change (Article 4(2a) UNFCCC); and
  - b. to prepare and submit periodic national communications on (i) their mitigation action and (ii) the projection of anthropogenic emissions by sources and removals by sinks of greenhouse gases (Article 4(2b) UNFCCC).

This declaration has the legal effect that Kazakhstan is regarded as an Annex I country for the purposes of the Kyoto Protocol. We understand that Kazakhstan is currently in the process of finalizing and submitting its national inventory of carbon.

3. The Kyoto Protocol comes into force for Kazakhstan 90 days after the deposit of the ratification act with the Secretary-General as the Depositary of the Kyoto Protocol, that is, on 17 September 2009.
4. As a consequence of the unilateral submission to Article 4 obligation, Kazakhstan is precluded from CDM activities.
5. Annex I Parties, and those that are regarded Annex I Party under the Kyoto Protocol, may engage in JI and IET. However, the additional requirement is that the State Party in question has an emission reduction and limitation obligation inscribed in Annex B to the Protocol. Without an Assigned Amount calculated, approved at COP level and ratified by at least three fourths of the State Parties of the Kyoto Protocol (approximately 150 countries), Assigned Amount Units (AAUs) cannot be issued and hence cannot be converted into the JI's emission reduction units (ERUs) or traded directly under IET. As a result, Kazakhstan may not currently participate in JI or IET.
6. Though difficult and unprecedented, it is technically possible for Kazakhstan to achieve formal Annex B of the Protocol inscription post-2012 and even prior to 2013. However, there are important procedural hurdles that need to be taken. First, the CMP will need to consider the Kazakh amendment in Copenhagen or a subsequent CMP; second it will have to adopt it; and 75% of the Parties to the Kyoto Protocol have to ratify the approved amendment.



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7. Kazakhstan may considerably bolster its position by promoting a commitment target that goes beyond limiting emissions to 1992 levels. Any such move would contain any risks that Kazakhstan's Annex B inscription would be regarded as a further source of additional AAU surplus. Instead, State Parties will hopefully increase their support for Kazakhstan's ambitious stance—though, again, this is unprecedented.
8. If Kazakhstan achieves Annex B of the Protocol inscription, it is eligible to receive its Assigned Amount for the entire commitment period 2008-12. In order for the recording of the Assigned Amount to occur, Kazakhstan must bring its annual inventories in line with Annex I standards and needs to submit its initial report. The UNFCCC Compliance Committee has 16 months for its review. Only after the Committee has approved the documents or once the 16 months period has elapsed, the Assigned Amount will be validly recorded. This makes the time frame for inclusion into Annex B and adoption of Kazakhstan's annual inventories to enable it to participate in JI and IET quite tight in relation to the expiry of the Protocol Commitment Period at the end of 2012.
9. In addition to the technical and document requirements, Kazakhstan must define and set in action national procedures to approve JI projects at the domestic level in order to be able to engage in JI.
10. Provided that (i) the Assigned Amount is recorded, (ii) Kazakhstan has proved JI eligible through its initial reporting and (iii) JI approval procedures are put in place before the end of 2012, JI project verification and ERU issuance for the whole commitment period back to the beginning of 2008 until the end of 2012 may be instigated.
11. There are more policy options for Kazakhstan. Apart from formal Annex B inscription, Kazakhstan may benefit from a success of the Russian Proposal, a scheme to allow non-Annex B Parties to obtain Annex B status without formal Annex B inscription. However, the Proposal yet awaits COP/CMP approval. Only then supportive action can be taken under that scheme.
12. Kazakhstan may also engage in voluntary and bilateral carbon crediting schemes. Both schemes open a perspective beyond COP intervention and/or formal Annex B inscription. The Kyoto mechanisms are not the only means to leverage investment in emission reduction projects and low carbon technology transfers. There are various existing international schemes; in addition, bilateral agreements are feasible for Kazakhstan to be concluded and implemented before the Kyoto situation is clarified.
13. Kazakhstan has clear prospects to be listed in Annex B in a future commitment period after 2012—provided negotiators will eventually agree on one. Here a Kazakh Assigned Amount may become part of the overall national negotiation portfolio. It remains doubtful, however, that State Parties would accept a target that was not backed by measurable, reportable and verifiable efforts at the national level. A target in the range of 100% over the historic peak of national emissions (1992) might be seen as too generous among State Parties.



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14. It is recommended that the Kazakh Government advocate further its commitment to reduce emissions rather than stabilise them. For that purpose Kazakhstan should consider presenting/implementing a comprehensive national plan of policies, measures and specific emission reduction projects already undertaken or envisaged to make manifest Kazakhstan's intention to move forward on an unequivocal path to a low carbon economy.



## 6 Opportunities for Kazakhstan to Engage in the Carbon Markets

Kazakhstan's economy is among the least energy efficient in the world, emitting more carbon per unit Gross Domestic Product than most other countries.<sup>33</sup> This opens a wide range of emission reduction opportunities, still largely untapped. Engagement in international carbon finance could provide Kazakhstan with opportunities to access resources to mobilize some of its greenhouse gas (GHG) emission reduction potential. This chapter discusses private sector willingness to engage in the carbon market, provides an overview of the state of play of the current carbon markets regulated by the Kyoto Protocol and the voluntary market as well as the potential for Kazakhstan to generate, certify and trade emission reductions in these markets.

### 6.1 Private Sector Engagement in the Carbon Markets

Several Kazakh companies have seriously examined emission trading opportunities but with a few notable exceptions, there have been no publicized transactions. The reluctance of the private sector to engage in the carbon market at this stage has two distinct causes.

The first is the lack of clarity on the status of Kazakhstan under the Kyoto Protocol, as discussed in Report 1 (above). The unique position of Kazakhstan under the Convention and the Kyoto Protocol makes it impossible to engage in any of the three defined flexible mechanisms. These mechanisms include Joint Implementation (JI), the Clean Development Mechanism (CDM) and International Emissions Trading (IET). Only a few companies are anticipating Kazakhstan's eligibility to participate in the Kyoto mechanisms and have drafted documentation to develop carbon investment projects.<sup>34</sup> Our expectation is that clarification of the Government of Kazakhstan on its Kyoto position and strategy could provide incentives for some, otherwise largely reserved, private sector involvement.

The second cause is the lack of experience of the Kazakh private sector with carbon markets. To date, private entities in Kazakhstan have had no exposure to regulatory incentives to reduce GHG emissions. Some international companies with presence in Kazakhstan participate in the carbon markets outside Kazakhstan.<sup>35</sup> Given that significant foreign investment in Kazakhstan's energy sector, energy intensive industries and financial sector is ongoing, these companies could bring valuable carbon market experience to Kazakhstan.<sup>36</sup>

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<sup>33</sup> International Energy Agency (EIA) on Kazakhstan: [http://www.iea.org/Textbase/stats/countryresults.asp?COUNTRY\\_CODE=KZ&Submit=Submit](http://www.iea.org/Textbase/stats/countryresults.asp?COUNTRY_CODE=KZ&Submit=Submit), visited on 30 September 2009.

<sup>34</sup> Examples of early movers in the Kazakh carbon markets are Mitsubishi Corporation, the North Caspian Operations Company (NCOC) and Mittal Steel.

<sup>35</sup> Examples include Alternative Energy Sources (AES), Mittal Steel, Mitsubishi Corporation, Marubeni Corporation and Deutsche Bank.

<sup>36</sup> See for example the members of the Foreign Investors Council, available at [www.fic.kz](http://www.fic.kz)





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## 6.2 International Carbon Markets

Kazakhstan has expressed its intent to be included in Annex B of the Kyoto Protocol. If Kazakhstan succeeds and meets the relevant eligibility criteria, the country can host JI projects and issue Emission Reduction Units (ERUs) that are tradable on international markets, including for emission reductions generated back to January 2008. Meanwhile, project developers in Kazakhstan may either rely on guarantees on future assigned amount units (AAUs) or ERUs (anticipated action, see 4.1 above) or they resort to voluntary carbon market standards and add value to emission reduction by generating verified (or voluntary) emission reductions (VERs).

**Table 3: Size of the voluntary market compared to other carbon markets.<sup>37</sup>**

Market	2007		2008	
	Volume (MtCO <sub>2</sub> eq)	Value (MEUR)	Volume (MtCO <sub>2</sub> eq)	Value (MEUR)
Primary CDM (CERs)	552	5,292	389	4,641
Secondary CDM (CERs)	240	3,881	1,072	18,707
JI (ERUs)	41	355	20	209
International Emission Trading (AAUs)	n.a.	n.a.	18	150
Voluntary market (VERs)	43	187	54	283
EU ETS (EU Allowances)	2,060	34,930	3,093	65,433

Note: the original figures were in USD and have been converted to EUR at an exchange rate of 0.71192 EUR/USD, the exchange rate at 30 June 2009.

The carbon markets have experienced impressive growth since the first transactions under the Kyoto Protocol took place in 2000. In spite of a sharp decline in carbon prices after July 2008 due to the global economic crisis, the carbon market as a whole saw a total transaction value of USD 126 billion in 2008, double its 2007 value.<sup>38</sup> In addition to the markets regulated by the Kyoto Protocol and regional emission trading schemes, the voluntary market is gaining momentum. In 2008, the voluntary market outperformed the JI market in terms of both trade volume and trade value, as evidenced by the numbers included in Table 3.

## 6.3 Joint Implementation

Joint Implementation is a project-based Kyoto mechanism that enables host countries to reward project developers that reduce the emission of greenhouse gasses with ERUs. This section describes the current state of the JI market and explains how the Government of Kazakhstan and the private sector can get involved in JI.

Joint Implementation projects are being developed in at least fourteen different countries and the JI project pipeline includes 208 projects, representing annual emission reductions of 74 million tCO<sub>2</sub>eq/year. 83% of these projects are in the determination stage. Nine projects have been registered under JI Track 2 and 33 are listed as Track 1.

<sup>37</sup> World Bank, State and Trends of the Carbon Market 2009 (Washington DC, May 2009).

<sup>38</sup> World Bank, State and Trends of the Carbon Market 2009.



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Track 1 projects are determined according to host country procedures and their listing after submission by the host country is generally regarded as the Track 1 equivalent of what is ‘final determination’ under Track 2 or ‘registration’ under the CDM. While Germany and Hungary lead the Track 1 pipeline in terms of number of projects, Russia and Ukraine dominate the Track 2 pipeline.<sup>59</sup>

The current JI project pipeline includes projects that use various technologies and are in different sectors. Table 4 provides an overview. In terms of annual reductions, the reduction of the emission of industrial gasses is the largest category. Around 30% of the expected credits are from the reduction of N<sub>2</sub>O emissions from nitric acid plants, mainly in Russia. The second largest category consists of projects that reduce associated methane emissions from coal mines, landfills and oil extraction. The majority of these projects are coal bed methane projects, most of which are located in Ukraine.

**Table 4: Market share of different project types in the JI project pipeline.**

Project types	Annual emission reductions		Projects	
	(tCO <sub>2</sub> eq/year)	Share (%)	#	Share (%)
Emission of industrial gasses including N <sub>2</sub> O and HFC23	21,880	30%	29	14%
Methane recovery from coal mines, landfills and oil extraction	17,541	24%	47	23%
Avoidance of methane leakage from pipelines	15,336	21%	22	11%
Energy efficiency	11,283	15%	38	18%
Renewable energy	5,851	8%	62	30%
Fossil fuel switch	2,026	3%	10	5%
Total	73,917	100%	208	100%

Source: UNEP RISØ pipeline from June 2009.

The third largest category of projects aims at reducing methane leakage from gas distribution networks. All these projects are located in Russia. The Government of the Russian Federation has not approved any JI projects so far, making it impossible for these projects to be officially recognized as JI projects. However, recent legislative activism extending to Article 17 (International Emissions Trading) and Article 6 (JI) Kyoto Protocol (Decree No 844-r of June 2009) suggests that this is about to change, JI energy efficiency projects include a diverse set of projects in different sectors. These projects include waste heat recovery from coke ovens, improved efficiency of district heating systems, energy efficiency measures at manufacturing plants, cogeneration and the refurbishment of power plants and steel mills. Energy efficiency projects can be relatively more complex than other projects since most of them consist of a set of different, potentially interrelated, measures.

The majority of the renewable energy projects are biogas and biomass projects (50%), closely followed by wind power (35%) and hydropower (15%). The share of renewable energy projects under JI is small, in particular when comparing with the CDM where this share is around 35%. The last project type is the fossil fuel switch projects. These projects



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are all located in Russia. Most of them involve a switch from coal or mazut<sup>39</sup> to natural gas.

As outlined in its international regulatory context above (Report 1): If Kazakhstan becomes an Annex B Party to the Kyoto Protocol and meets the eligibility criteria, it can participate in the JI and IET markets. The implementation of JI in Kazakhstan is subject to two further conditions: Firstly, Kazakhstan needs to develop, publish and submit its domestic JI approval procedures to the UNFCCC Secretariat.<sup>40</sup> To date, most Annex B countries have done so.<sup>41</sup> Among non-Annex-B countries Belarus<sup>42</sup> has set a precedent by submitting their procedures prior to becoming an Annex B Party.<sup>43</sup>

The second condition relates to project eligibility criteria. JI projects need to meet the following key criteria:

- the starting date is not before 2000;
- the estimation of the emission reductions is accurate, conservative, transparent and verifiable; and
- the emissions reductions are additional to what would otherwise occur.<sup>44</sup>

CDM projects can only apply approved baseline and monitoring methodologies. JI allows for more flexibility. JI project developers can submit new projects and project types without prior approval of the methodology. This broadens the project opportunities under JI compared to the CDM. Unfortunately, in practice project developers are reluctant to explore emission reduction potential beyond common practice under the CDM. As well, there have been difficulties with convincing determinators to utilise such intended flexibility rather than defaulting to strict CDM approved methodology standards. The third eligibility criterion listed above can be affected by government policies. Project developers tend to follow the CDM additionality tool<sup>45</sup> for the demonstration of additionality of JI projects, even though there is no requirement to adopt the CDM approach. One of the elements that should be demonstrated in the tool is the identification of alternatives to the project which are consistent with mandatory laws and regulations. Although policy development towards reducing emissions should not affect JI, reality is that risk averse project developers and validators do take it into account. This means that if the Kazakhstan Government implements legislation to enforce certain emission mitigation measures, this may make it more difficult for project developers to attract JI revenues for these measures. Therefore the Kazakh Government should seek to include in its legislation and mitigation strategies that carbon finance will be an integrated element of any regulation that would stimulate or oblige certain greenhouse gas mitigation measures.

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<sup>39</sup> Mazut is also referred to as Heavy Fuel Oil or HFO.

<sup>40</sup> Cf. Decision 9/CMP.1, paragraph 20 : “national guidelines and procedures for approving Article 6 projects, including the consideration of stakeholders' comments, as well as monitoring and verification.” See on this our previous report.

<sup>41</sup> Belarus and all Annex B countries except for Canada, Croatia, the European Community, Luxembourg, Norway and Slovenia submitted these to the Secretariat. These procedures are available at: [http://ji.unfccc.int/JI\\_Parties/PartiesList.html](http://ji.unfccc.int/JI_Parties/PartiesList.html)

<sup>42</sup> For more information on Belarus, please see Box 1 in Report 1.

<sup>43</sup> For the position of Belarus under the Kyoto Protocol, see above, Report Task 1 under 3.1.

<sup>44</sup> Cf. Decision 9/CMP.1, Guidelines for the implementation of Article 6 of the Kyoto Protocol.



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### Forward contracts

Despite Kazakhstan not being eligible to host JI projects yet, it is possible for entities in Kazakhstan to already engage in JI on a forward basis. Contracts could be signed on the assumption that Kazakhstan will attain JI eligibility in future. However, the value of forward sold ERUs will be discounted because of the delivery risk associated with the outstanding host country eligibility for this Kyoto mechanism. Communicating the commitment and strategic plans of the Kazakh Government to becoming eligible for JI would help here to improve private sector confidence in JI, thereby boosting the position of Kazakh JI project developers in the negotiation of forward sales agreements for ERUs.

### Retroactive Crediting

The Kazakh Government could also commit to retroactive crediting, creating a strong incentive for early action on JI. Contrary to the CDM, JI allows for issuing ERUs for reductions that took place during the crediting period but before the moment the host country has been allocated an Assigned Amount and becomes JI eligible (i.e. capable of transferring ERUs).

#### **Box 2: JI Crediting Period—Retroactive Crediting—Early Crediting**

The crediting period for a JI project is the period for which reductions from the baseline are verified and certified by a accredited entity for the purpose of generation of ERUs. The start date of the JI project is the earliest date at which either the implementation or construction or real action of a project begins. While the project start date refers to the factual start of project operations the former refers to the regulatory result, i.e. to when emission reductions can be verified and ERUs can be issued for the reductions achieved.

At least under Track 2 **crediting periods** may only commence from 2008 onwards, even if the starting date of the project is earlier: “ERUs shall only be issued for a crediting period starting after the beginning of 2008.” (Guidance on criteria for baseline setting and monitoring, JISC 4, Annex 6, para. 16) The rules for Track 1 are less pronounced on this and one could argue the host country has the flexibility to authorize a crediting period that started before 2008 (see above, 4.1).

The issuance of ERUs, on the other hand, requires that a country is JI eligible. A JI project may however start before eligibility has been established. In this case—the project starts first and the country becomes JI eligible only over the course of the commitment period—credits may be issued retroactively from 2008 onwards (**retroactive crediting**).

So called **early crediting** has strictly speaking nothing to do with the Article 6 KP JI mechanism at all. Instead, it refers to pre 2008 arrangements under which the commencement of JI projects was encouraged by governments through an indirect AAU subsidy. For each emission reduction achieved a project host country would transfer (under Article 17 KP, International Emissions Trading (IET), see below under 6.4) one AAU to a partner/investor country which in turn would help finance the project. Early crediting arrangements were common in early JI contracts of the Dutch ERUPT program and the World Bank Prototype Carbon Fund. They were in most cases backed by a bilateral host country agreement in addition to the project specific ERPA.



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Technically, retroactive crediting would only require that the emission reductions generated are monitored in a JI compatible way and that Kazakhstan becomes JI eligible prior to the expiry of the Kyoto Protocol.<sup>46</sup>

**Box 3: The Allocation of Assigned Amount and the Issuance of Assigned Amount Units (AAUs)**

The exact quantity of each Party's initial Assigned Amount in t CO<sub>2</sub> eq must be established prior to the commitment period or within one year of the entry into force of the Kyoto Protocol for the Party, whichever comes later.

The process for establishing a Party's Assigned Amount is initiated by the Party's submission of its initial report, which should provide information on the Party's calculation of its assigned amount, its CPR, and other information necessary for the Party's accounting of assigned amount during the commitment period.

After the initial report has been reviewed, and any questions of implementation have been resolved by the Compliance Committee (this period may last up to 16 months), the Party's initial Assigned Amount—and its eligibility to participate in the Kyoto Protocol's flexible mechanisms—will be recorded in the Secretariat's Compilation and Accounting Database (CAD). Once the initial Assigned Amount is recorded, it is permanent for the commitment period and cannot be changed. The information will be forwarded to the International Transaction Log (ITL).

It is only now that the Party concerned can begin to issue AAUs in its national registry and that it can engage in the transfer and acquisition of Kyoto Protocol carbon units.

If the Government of Kazakhstan wants to support retroactive crediting, it should take the initiative regarding the approval procedures and the commitment to recognize early action by means of subsequent (retroactive) crediting. Most project developers would require a firm commitment in that sense from the Government and a reliable timeline for when crediting/issuance of credits will occur. They would need this namely to calculate costs and to prepare a consistent additionality argument. Such a commitment could be made within or together with the issuance of a Letter of Approval. It could take on the form of a political/administrative intention only or the Kazakh Government could give it the form of a legal and enforceable obligation.

The contingency scenario is important in this context, especially if the Government commits in the form of a legal obligation: What happens if, for whatever reason, JI eligibility fails to materialize within the expected timeframe or to materialize at all? A balance has to be drawn here between the financial and budgetary interests of the Government and the legitimate interests of the project investors who rely on the commitment made. One possible solution could be to furnish the prospect of retroactive

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<sup>46</sup> Formal determination may precede, but this is not a prerequisite for generating emission reductions. Before issuance, determination must take place.



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credits with a judicially enforceable right but to expressly exclude any liability for the event that Annex B inscription cannot be obtained by 2013. Alternatively, the commitment could extend to the next commitment period in that emission reductions would be rewarded either from the pre-2013 AAU contingent, if available, or from the post-2012 contingent. Such commitment could be combined with, for instance, a total quantitative cap on retroactive credits. There is a great variety of options in this respect, not least in combination with voluntary schemes (on this see below, 6.7). The Government would need to see how to balance best financial and reputational liabilities and inherent risks versus the benefits of jump-starting carbon finance in Kazakhstan.

### Different JI Project Types

Not all projects that reduce GHG emissions are equally attractive under JI. JI favours projects that reduce emissions through a single or small number of homogeneous measures. Examples are projects that reduce emissions from large energy plants or industrial facilities. Projects that reduce emissions from a large number of units, for example in the residential or transport sectors are more complex to develop under JI. The existing JI pipeline also lists fewer project precedents in these sectors.

*Recommendations:* For the Kazakhstan Ministry of Environment the following measures do not create obligations or risk but do allow the country to develop and promote its JI potential:

- Broadly communicate the country's Kyoto strategy to the private sector, clarifying that the only option is JI (and not CDM).
- Inform the UNFCCC Secretariat of the Designated Focal Point.
- Draft JI approval procedures, communicate them to the UNFCCC Secretariat and implement them to show the country's JI intentions and make its JI strategy public.
- The government could even approve JI projects, defining in its Letter of Approval under which conditions ERUs will be issued, leaving it up to the project participants to decide whether they are willing to take the risk that these conditions are not met. In addition, the government could commit to issuing retroactive credits for reductions achieved by JI projects before they achieved final determination as a JI project. Decide on whether the government is willing to commit to the approval of JI projects and transfer of ERUs even before the country secured its JI eligibility and received AAUs. Among the variety of options and ways in which such a commitment can take shape, the government needs to find a balance between financial and reputational liabilities and inherent risks versus the benefits of jump-starting carbon finance in Kazakhstan.

## 6.4 International Emissions Trading

The IET market is the smallest of the Kyoto markets (see Table 3). IET involves the transfer of AAUs between Annex 1 Parties or authorised entities. The main suppliers of AAUs are countries with emissions well below their Kyoto target. Around 50% of the AAU surplus lies in Russia, 25% in Ukraine and the remainder in the EU accession countries.<sup>47</sup> So far Russia has not made attempts to sell part of its AAU headroom while Ukraine and some EU member states have already been engaged in transactions.

Some examples of IET transactions are:

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<sup>47</sup> World Bank, State and Trends of the Carbon Market 2009 (Washington DC, May 2009).



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- Early crediting for JI projects.<sup>48</sup>  
Currently, JI projects can only receive ERUs for reductions achieved in the period 2008-2012. To award reductions achieved already before 2008 and stimulate early action, some host countries issued AAUs at the time equal to the amount of verified emission reductions achieved by JI projects in the period 2000-2008.
- Transactions of EU Allowances between countries.<sup>49</sup>  
The trading unit of the European Emissions Trading Scheme involves the transfer of AAUs wherever “EU Allowances” are transferred between country registries. Transactions of EU Allowances between countries are therefore governed by IET.
- Bilateral transactions.  
Some countries have engaged in bilateral transactions of AAUs. An example is the recent sale of AAUs by Ukraine and Latvia to the Japanese Government.<sup>50</sup>

### Early Crediting

Early crediting could become relevant again in the case that Kazakhstan fails to have an Assigned Amount in place prior to the end of this commitment period. In that case, ERUs cannot be issued from an AAU contingent. Retroactive crediting will thus be impossible. For this scenario Kazakhstan could commit to reward reductions from a future contingent. For example, if Kazakhstan receives AAUs only for the commitment period after 2012, it could still issue AAUs for monitored reductions that took place before 2012.<sup>51</sup> Committing to such an early crediting scheme would give JI project developers additional confidence that their early reductions will be eligible for either ERUs or AAUs.

For precedence we can look at the European model of early crediting. At the inception of the JI market some European Annex 1 host country governments stimulated early JI activity, even before the Kyoto Protocol was ratified. Examples include the early transactions concluded by the Dutch Government’s Carbon Credits Programme and the World Bank’s Prototype Carbon Fund which were supported by a promise of the host governments (Bulgaria, Romania, or Czech Republic) to transfer AAUs for emission reductions achieved before 2008. The transaction is between two Annex 1 country governments with the private JI project developers as beneficiary.<sup>52</sup> With a view to the

<sup>48</sup> For further explanations see Box 2 above and below.

<sup>49</sup> These are not included in the overview in Table 3 since it shows the EU ETS market as a separate market, distinct from the AAU market. Since transactions in EU Allowances between EU member states make use of IET, the overview presented by the State of the Carbon Market, as showed in Table 3 underestimates the size of the AAU market.

<sup>50</sup> Reuters web-site “Japan to seal carbon deal with Ukraine soon”, a press release dated 16 March 2009, available at:

<http://www.bloomberg.com/apps/news?pid=20601101&sid=arVe38Kev274&refer=japan>, visited at 30 June 2009. Latvian AAU transactions include a deal with the Netherlands (March 2009, 3 million AAUs), with Austria (April 2009, 2 million AAUs), with Spain (September 2009, 5 million AAUs), and with Japan (October 2009, 1.5 million AAUs), see Point Carbon, 15 October 2009..

<sup>51</sup> See also above under 6.3.

<sup>52</sup> An example is the ‘New cogeneration station at the Biovet factory’ project, that involves the transaction of ERUs for reductions achieved from 2008-2012 and AAUs for reductions achieved after 20012. Project information is available at:

<http://www.senternovem.nl/carboncredits/projects/eru0433.asp>.



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possibility that Kazakhstan receives an Assigned Amount only for the time after 2012, the Kazakh Government could make use of this mechanism in order to avoid that the country's outstanding JI eligibility further delays private sector initiatives in the JI market.

### Green Investment Schemes (GIS)

Most buyers in the IET market require 'greening effort' by the selling Party. Greening varies from earmarking the transaction revenues for investments in sustainable development to implementing projects and transfer of AAUs equal to an amount of verified reductions achieved by the project. Greening of AAUs is not required under the Kyoto framework but is developed to ensure that IET revenues are used to the benefit of projects with clear environmental benefits.

The Kazakh Government could consider developing the institutional framework for IET transactions with provisions for greening, so called 'Green Investment Schemes' (GIS). Revenues from GIS transactions can support investments in projects or programs that reduce GHGs or provide other environmental benefits. The Government of Kazakhstan can also use GIS proceeds to support other broader initiatives such as capacity building or activities that may be effective for which it is difficult to quantify the effect on emissions, like public awareness campaigns. Since GIS aim at assuring buyers that revenues from IET are used to the benefit of the environment, transparency is important; both for the project selection criteria as well as on the eventual use of IET revenues.

The IET market is the least transparent of the three Kyoto flexible mechanisms. According to the World Bank's State of the Carbon Market the total market size in 2008 was 18 million units but very little transaction-specific information is made available.<sup>53</sup> However, more recent data suggests that the IET/GIS market has grown considerably over the past year.<sup>54</sup>

While expectations were that the IET market would be predominantly a market for governments, there are signs of increasing private sector involvement. The Kyoto regime allows private entities to hold and transfer AAUs provided that they are authorized by an eligible Annex I Party. To date, several countries have given authorisation to private entities to trade and have put in place the registry facilities to perform AAU transfers.<sup>55</sup> In many cases, however, the legal and technical situation is unsettled and private AAU trading, in particular in Europe, is still nascent. Japanese companies on the other hand have already engaged in AAU transactions with the Ukrainian Government.<sup>53</sup>

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<sup>53</sup> Examples of news items on AAU transactions are: Ukraine to sell \$3.5 billion more Kyoto carbon rights, 26 May 2009, available at: <http://www.reuters.com/article/GCA-GreenBusiness/idUSTRE54P3LE20090526>.

Spain buys 6 million emissions rights from Hungary, 13 November 2008, available at: <http://www.reuters.com/article/environmentNews/idUSTRE4AC50420081113>.

Slovakia sells Kyoto carbon credits at €6.05, 25 Nov 2008, available at: <http://www.pointcarbon.com/news/1.1010430>, Latvia to launch GIS, 27 Jul 2009, available at: <http://www.pointcarbon.com/news/1.1172378>.

<sup>54</sup> See footnote No 52 above.

<sup>55</sup> For a cursory overview over all EU member states see the EU Commission paper: <http://ec.europa.eu/environment/climat/emission/pdf/holdingofunitytypes.pdf>.





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Within the EU, the UK and Slovakia authorise the holding of AAUs on private registry accounts within their national registries. Additional EU countries that are reported to allow the holding of AAUs on private, as well as operator accounts, include the Czech Republic, Denmark, Finland, Lithuania, Portugal and Sweden. Outside of the EU, Japanese, Swiss and entities from New Zealand are authorised to participate in AAU deals.

*Recommendations:* The Government of Kazakhstan should carefully determine its position on the IET market. This market still suffers from a difficult reputation (IET being almost automatically linked to surplus AAUs which are often perceived as both ecologically and economically dubious) which could negatively impact Kazakhstan's Annex B ambitions. Therefore any intentions on the IET market should be backed by measurable and transparent greening. Some suggestions are:

- Commit to rewarding reductions from JI projects with early credits, allowing project participants access to AAUs under predefined conditions.
- Develop a solid Green Investment Scheme where each AAU transferred is backed by monitored emission reductions. Developing these emission reductions will take time, which would justify starting with their implementation already before Kazakhstan is eligible for IET. These projects could be part of a strong low carbon strategy that demonstrates the country's confidence in obtaining Annex B status and commitment to reducing greenhouse gas emissions.

### 6.5 A National Emissions Trading Scheme and the Potential for Linking

In addition to the Kyoto flexible mechanisms, regional emissions trading schemes are important drivers of the carbon market. They form part of the strategies which governments aim at meeting their Kyoto obligations when they decide to transfer some of the sovereign compliance burden to private companies. To the extent that such schemes are effective, they stimulate private sector action in countries that are not submitted to binding emission reduction targets. Two major conceptual schemes have emerged, cap-and-trade, where participants are allowed and ex-ante contingent of emissions, on the one hand, and baseline-and-credit, where participants can gain credits ex post for reducing their emissions over the past period, on the other. Such schemes may work with or without a punitive element (sanction for over-emitting). The absence of direct and punitive sanctions does not mean that a scheme does not trigger incentive for action. A bonus scheme may be coupled with tax rebates for successful emission reduction action.<sup>56</sup>

Kazakhstan has pioneered in this field by regulating greenhouse gas emissions and the emission of ozone depleting substances through the establishment of provisions that allow the definition of caps on emission levels per installation and the imposition of penalties if annual targets are not met.<sup>57</sup> However, implementation of the new regulations

<sup>56</sup> See for instance the UK Climate Change Agreements, <http://www.defra.gov.uk/environment/climatechange/uk/business/ccl/index.htm>.

<sup>57</sup> Cf. Ordinance No 124 of 8 February 2008 on reporting obligations for GHG and Ozone forming gases and Ordinance No 128 of 11 February 2008 which gives the authorities the right to define a quota (limit) for GHG emissions of industrial emitters (base year is 2008).



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is slow, a major impediment being that methodologies for reporting and measuring are not yet fully developed.<sup>58</sup>

The European Emissions Trading Scheme (EU ETS), a cap-and-trade scheme which has the potential for stringent penalties for non-compliance, is the largest emission trading scheme in size and volumes traded, amounting to over 3,000 million tCO<sub>2</sub>eq in 2008. Other national or regional markets like the Australian New South Wales trading scheme, the Chicago Climate Exchange (which is privately organized and voluntary) and the US based Regional Greenhouse Gas Initiative, being considerably smaller in size, had an aggregate trade volume of 165 MtCO<sub>2</sub>eq in 2008. Key explanation for the high turnover of the EU ETS emissions trading system is its mandatory (compliance) character covering all 27 member states of the EU plus Norway, Iceland and Liechtenstein, the level of standardisation of the tradable compliance instrument, and the large amount of units issued, making the market liquid.

Since EU allowances are issued based on predefined allocations, most of the transactions are spot transactions of issued credits or futures with a delivery guarantee. The JI and CDM markets are different. JI and CDM are project-based mechanisms and the issuance of credits depends on project performance and regulatory approvals. In terms of volumes of issued credits, the EU ETS is much larger than the two project-based Kyoto Mechanisms, see Table 5.

**Table 5: Market size, distinguishing potential and issued credits.<sup>59</sup>**

Market	Credits	
CDM	Pipeline size up to 2012	3,040 million tCO <sub>2</sub> eq
	Issued credits	308 million CERs
JI	Pipeline size up to 2012	336 million tCO <sub>2</sub> eq
	Issued credits	25 million ERUs
EU ETS	Amount of credits issued for the period 2005-2007	6.8 billion EU Allowances
	Amount of credits issued for the period 2008-2012	11.6 billion EU Allowances

The Kazakh Government can decide to implement a domestic trading scheme which would open opportunities for linking with other trading schemes. Domestic trading schemes are designed to manage domestic GHG emissions. Aspects to consider when developing a domestic trading scheme are the following:

- Domestic trading schemes require a lot of regulatory and technical capacity from the side of the Government as well the entities involved. There are alternatives to a (punitive and mandatory) cap-and-trade scheme.

<sup>58</sup> Interview with Ms. Petra Opitz from DIW econ GmbH who acts as consultant in the matter, dated 30 October 2009.

<sup>59</sup> UNEP RISØ pipeline from June 2009,

UNFCCC CDM web-site: < [http://cdm.unfccc.int/Issuance/cers\\_iss.html](http://cdm.unfccc.int/Issuance/cers_iss.html)> accessed at 30 June 2009.

European Commission web-site:

<<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1869&format=HTML&aged=0&language=EN&guiLanguage=en>> , visited at 30 June 2009.



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- Domestic schemes are designed to promote a long-term trend of emission reductions, the overall cap of the emissions should be lower than the compounded GHG emissions of the covered entities.
- Trading schemes expose entities with a compliance target to market volatility. Larger schemes are likely to be less volatile than small schemes. On the other hand the mobilisation of the private sector and market forces can improve the efficiency and cost effectiveness of efforts to reduce greenhouse gas emissions in Kazakhstan.
- Linking requires bilateral agreement on the modalities of linking (see Box 4), which will be based on the similar level of stringency, enforcement, and environmental credibility. This implies that the partner nation has full confidence in Kazakhstan implementing a scheme that is at least as credible and strict as the other scheme. Building up that confidence will take time, making linking more an option for the longer term.
- In the absence of linking, as a mere domestic system, a Kazakh emissions trading scheme would probably be a less effective means to attract foreign investments to reduce GHG emissions.
- Countries that have set up emissions constrained environments may decide to impose import taxes on products from countries that act in unconstrained environments and that are permissive on the level of carbon intensity. The motivation for such taxes is often to protect home industries against competitors from abroad that do not face stringent (and expensive) greenhouse emission reduction targets and whose production costs are thus cheaper. Pro-active mitigation action, of which a trading is only one of the many possible policy measures, may help avoid that Kazakhstan will be subject to such green border taxes in the future. Serious domestic emission reduction obligations for industries would hence create a level playing field..



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### **Box 4: Linking of emission trading schemes**

If Kazakhstan introduces its own emissions trading scheme it could link this scheme with other trading schemes. There are three ways of linking:

1. Direct, two-way: allowances from system A can be used for compliance in system B and vice versa (example: EU allowances can be used for compliance in different EU member states).
2. Direct, one-way: allowances from system A can be used for compliance in system B but allowances from system B cannot be used in system A (example: Norway accepted EU allowances for compliance purposes but Norwegian allowances cannot be used under the EU ETS).
3. Indirect, unilateral links with a third system (example: The EU ETS is indirectly linked with other systems through CDM and JI)

Linking can make the market larger and more robust. If Kazakhstan implements a JI framework it can link with the EU ETS by supplying ERUs to the EU market. Kazakhstan could also implement a domestic trading scheme. However, on short term it is unlikely that the EU would accept allowances from a Kazakhstan ETS under the EU ETS because:

- The difference in abatement costs can lead to convergence of prices between the two systems and cause unilateral capital flow from one system to the other,
- A Kazakhstan ETS would be relatively small and linking would have less political priority than for example linking with a future US scheme, and
- The EU would require a level of confidence in the integrity, strictness and credibility of the Kazakhstan system, making it reluctant to link prior to Kazakhstan operating the system successfully during a certain period of time.

For further reference: A. Tuerk, "Linking Emissions Trading Schemes, Climate Strategies (Cambridge 2009); EU ETS Linking Directive.

### **Forward contracts**

If Kazakhstan implements a domestic trading scheme, it could link it to other trading schemes by allowing carbon credits that originate from outside Kazakhstan for compliance purposes within the scheme (e.g. from neighbouring countries where Kazakhstan has strategic assets). An example could be that the Kazakh Government allows CERs for compliance in its domestic scheme. Since the CER market has an attractive liquidity and size this could reduce price volatility in the domestic scheme.

*Recommendations:* Implementing a domestic trading scheme is a large operation that requires a lot of institutional and governing capacity. It is also a policy measure that gives control on greenhouse gas emissions but relies on operation of free markets which are rapidly developing but not yet fully mature in Kazakhstan. Therefore, a domestic trading scheme should be carefully implemented. If attempts to implement such a system fail or governance of the system is ineffective, Kazakhstan risks a negative impact on its ambitions for participation in the Kyoto flexible mechanisms.



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### 6.6 The Voluntary Carbon Market

The voluntary market can be of interest to Kazakhstan both for so called pre-JI registration credits, for projects not eligible or difficult to develop under JI and to create incentives for project developers already now, while pursuing the Kyoto Protocol Annex B listing. Pre-registration credits are verified emission reductions from projects that are developed as JI projects but generate credits before registration with the relevant body (Executive Board for the CDM, Joint Implementation Supervisory Committee or national governments for JI). These credits can be sold on the voluntary market through exchanges or in bilateral transactions with buyers. The voluntary market could provide an alternative for issuing AAUs for emission reductions achieved by future JI projects before Kazakhstan becomes eligible for JI. Voluntary carbon markets do not require government involvement and are administered by various organisations that offer voluntary carbon market regulatory services. Such services include the development of standards, verification procedures and registries.

Verified Emission Reductions (VERs) are project-based emission reductions that are mainly used by companies in industrialised countries without compliance targets to voluntarily offset their emissions. A difference between the voluntary market and the compliance market is that VERs cannot be used to meet regulatory compliance. In order to increase transparency, credibility and standardisation of voluntary carbon offsets, a number of standards have been developed over recent years. Compared to CDM and JI, voluntary standards generally have broader scopes and eligibility criteria and lower transaction costs. For example, the scope of the Voluntary Carbon Standard (VCS) includes:

- all six Kyoto Protocol greenhouse gases;
- all technologies supported by a methodology approved under the vcs;
- any approved GHG Programs;
- project category(ies) which is/are part of an approved GHG Program (including projects that use an approved CDM methodology).

On the other hand, voluntary schemes can be more restrictive than JI or CDM. The VCS, for instance, has limited the eligibility of projects reducing HFC<sub>23</sub> emissions to Annex B countries.<sup>60</sup> The Gold Standard is even more exclusive in terms of admissible project types and GHG types. It allows only projects reducing Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>) and Nitrous oxide (N<sub>2</sub>O) emissions. For specific project types the Gold Standard defines additional sustainable development criteria, thereby posing restrictions on energy recovery from waste heat and methane that is not derived from renewable energy sources, use of non-renewable biomass and projects with a fuel switch to less carbon intensive fossil fuels.

Some voluntary standards also provide registry services, including the VCS, the Gold Standard and the Climate Action Reserve (CAR).

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<sup>60</sup> Voluntary Carbon Standard 2007.1, 18 November 2008, section 3.1.

VCS Program Update, 9 July 2009, Update to the VCS 2007.1: HFC Projects in Annex B Countries, available at: <http://www.v-c-s.org>.



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The supply side of the voluntary market often focuses on projects that are difficult or expensive to develop under JI or CDM or simply not eligible under these mechanisms because of limitations in terms of the:

- geographical scope (e.g. Turkey, US, Belarus);
- project type (e.g. avoided deforestation, carbon capture and storage);
- timing (reductions from CDM projects achieved before their date of registration);  
or
- size (c.f. the micro projects under the Gold Standard).

The demand side of the voluntary market consists of entities that voluntarily commit to offset their emissions. In this market around 66% of the buyers are private firms motivated by their Corporate Social Responsibility and public relations or branding.<sup>61</sup> This makes the environmental appeal of a voluntary project an important price determinant. Therefore most voluntary market projects involve renewables, forestry and small manure management, waste water treatment and agricultural projects.

In terms of value, the voluntary carbon market measured EUR 283 million in 2008 and hence is much smaller than the primary JI and CDM markets with an aggregated value of USD 4,850 million.<sup>62</sup> However, the voluntary market has experienced considerable growth in 2008, while the CDM and JI markets were in decline, though the entire carbon finance market has been affected by the global economic crisis and prices have proven very volatile as a result.

**Table 6: Overview of the main voluntary carbon market standards.**<sup>63</sup>

Standard	Market Share	Projects	Main host countries	Main project types
Voluntary Carbon Standard (VCS)	48%	76 registered	China (24), Brazil (25), US (10), India (8), Thailand (5)	Hydro (15), Wind (13), manure management (9), waste water treatment (6)
Gold Standard	12%	104 in pipeline, 23 registered	Turkey (45), China (21), India (4) Taiwan (3), US (3)	Wind (45), small hydro (20) bio-energy (13), energy efficiency (10)
Climate Action Reserve (CAR)	10%	54 in pipeline, 8 registered	All projects are located in the US.	Landfill gas (29), Manure management (12), Forestry (9)

<sup>61</sup> Ecosystem Market Place and New energy Finance. Fortifying the foundation: State of the Voluntary Carbon Markets 2009, may 2009.

<sup>62</sup> World Bank, State and Trends of the Carbon Market 2009 (Washington DC, May 2009).

<sup>63</sup> Gold Standard registry: <https://gs1.apx.com/myModule/rpt/myrpt.asp>, accessed 30 June 2009.  
VCS registry: <https://vcsprojectdatabase1.apx.com/myModule/rpt/myrpt.asp?r=111>, accessed 30 June 2009.

Climate Action Reserve: <https://thereserve1.apx.com/myModule/rpt/myrpt.asp?r=111>, accessed 30 June 2009.

American Carbon Registry: [http://www.americancarbonregistry.org/carbon-registry/projects/project-list/acr\\_atct\\_topic\\_view?b\\_start:int=0&-C=](http://www.americancarbonregistry.org/carbon-registry/projects/project-list/acr_atct_topic_view?b_start:int=0&-C=), accessed 30 June 2009.

Ecosystem Marketplace & New Carbon Finance, State of the Voluntary Carbon Markets: fortifying the foundation (May 2009, New York). This source has been used for market shares and information on CCX.



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American Carbon Registry	9%	22 projects	US (19), Bolivia (1), El Salvador(1), Nicaragua (1)	Landfill gas (10), Carbon Capture and Storage (5)
Chicago Climate Exchange (CCX)	3%	Unknown	US/Canada (60%), Asia (19%), South America (21%)	Coal Mine Methane (30%), Agriculture (16%), Forestry (22%), renewable (13%)

Sources: Ecosystem Marketplace & New Carbon Finance and the registries of the Gold Standard, VCS, CAR and the American Carbon Registry.

The majority of projects developed under the voluntary standards are located in non-Annex 1 countries or countries that are not eligible for any type of emission trading under the Kyoto Protocol. Table 6 shows the project types and countries represented in the project pipeline of the larger voluntary carbon standards.

The voluntary markets can prepare the private sector for future Joint Implementation engagement and stimulate early action. There are many precedents of project owners that developed their pre-2008 emission reductions under a voluntary scheme and later on graduate to JI or CDM. This could serve as model for Kazakhstan. Project developers may start their projects as voluntary projects and transfer them to JI projects when Kazakhstan becomes eligible for JI participation. It is noted that there is usually a considerable price differential between voluntary market emission reductions and JI emission reductions (to the benefit of the latter).

*Recommendations:* Involvement in the voluntary carbon is a track that the Kazakh Government can safely and instantly support. Although this is not a requirement under most voluntary standards, project developers may seek clarification on the need for government approval or endorsement of voluntary project activities. A clear position statement from the Kazakh Government could help to initiate action on short notice. This position could include the indication that subsequent project transferral to JI would be encouraged. Since the existing standards already facilitate the voluntary markets with their services, other actions from the Kazakh Government would not be required.

### 6.7 Combining Different Trading Mechanisms

Participation in JI and IET requires listing of Kazakhstan in Annex B of the Kyoto Protocol while participation in the voluntary carbon markets and the implementation of a domestic trading scheme is not governed by the Kyoto Protocol. However, early action anticipating future JI participation can be stimulated already now. Table 7 provides an overview. The combination of mechanisms may also provide hedging strategies to contain the risks involved with Kazakhstan becoming (or failing to become) an Annex B country. In case Kazakhstan encourages anticipated JI action and promises to compensate investors through the issuance of ERUs at a later stage, the fall-back scenario—to be triggered when Kazakhstan fails to become Annex B by a certain date—could be that emission reductions are certified through Government supported VERs. These may be sold to international markets, used for domestic offset purposes or as offsets for carbon adjusted border taxes.



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**Table 7: Trading mechanisms in different Kyoto periods.**

Trading Mechanism	2008-2012	Post-2012	Options for both periods
Joint Implementation	If Kazakhstan receives AAUs and becomes eligible for JI before the end of 2012 it can retroactively issue ERUs for reductions achieved by JI projects before the end of 2012.	Participation in JI depends on whether Parties come to an agreement on a post-2012 regime and develop a post 2012 regulatory framework for JI or a similar trading mechanism.	Verified emission reductions as a result of early action can be rewarded with ERUs while using Track 1.
International Emissions Trading	If Kazakhstan receives AAUs and become eligible for IET before the end of 2012 it can participate in IET transactions before 2012.	Participation in IET depends on whether Parties come to an agreement on a post-2012 regime and develop a regulatory framework for IET or a similar trading mechanism for after 2012.	Verified emission reductions as a result of early action can be rewarded with AAUs. This 'retroactive crediting' is particularly interesting for governmental buyers which can use AAUs for compliance. Only few private buyers can use AAUs for compliance.
Voluntary Carbon Markets	Looking at the main voluntary carbon standards, Kazakhstan is eligible for participation in the voluntary market. Only if it receives AAUs by becoming an Appendix B country, voluntary standards may require that AAUs are cancelled for each VER issued.		Some private sector representatives in Kazakhstan expressed doubts on whether they can develop voluntary projects without governmental approval and whether voluntary projects can graduate to JI if Kazakhstan becomes eligible for JI. The Kazakh Government could clarify these issues and take an official position towards voluntary projects.
Domestic Emission Trading Schemes	Kazakhstan can implement a domestic trading scheme regardless of its position under the Kyoto Protocol. Developing the regulatory framework, and defining caps for individual emitters will take time, but in theory a domestic trading scheme can be implemented before and after 2012.		A domestic trading scheme can allow companies to invest in and import CERs and ERUs and use them for compliance also if Kazakhstan is not eligible for participation in JI or CDM.

### 6.8 Steps Ahead

The previous sections presented various options for Kazakhstan to engage in the carbon markets. Many of these options can be combined and interlinked with each other. The





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following table lays out the steps ahead for each option and shows the risks that the Kazakh Government should be aware of when implementing them.

**Table 8: Steps ahead for Kazakhstan to engage in the trading mechanisms.**

#	Steps or decisions	Risks
<b>Joint Implementation</b>		
1	Capacity-Building: Explain to government officials in all Ministries concerned (Industry, Natural Resources, Building, Budget etc.), to business representatives concerned, including investors and project developers: <ul style="list-style-type: none"> <li>the principals of carbon engagement, carbon project management and international trading; and</li> <li>the roadmap for Kazakhstan's JI implementation including a risk assessment as to Annex B inscription and a timeline for the fulfilment of JI eligibility</li> </ul>	Intensive, time- and costs-sensitive engagement with no assurance of definite/measurable results.
2	Incentive Creation: Decide and communicate on retroactive crediting and the exact terms.	Financial liabilities on the one end, little confidence among market participants, on the other.
3	Develop a JI approval procedure and establish a Designated Focal Point, inform the secretariat and decide on whether to implement the procedure in anticipation of JI eligibility.	Responsibilities and decision-making procedures for the approval procedures should be clear, predictable and effective.
4	Make a decision on whether to implement Track 1 procedures in addition to the international (Track 2) procedures.	A regulatory framework for determination and verification needs to be set up, which entails technical challenges where the framework deviates from.
<b>International Emissions Trading</b>		
1	Take a position in the climate negotiations on whether to sell AAUs (future and spot contracts) and whether or how to ensure proper greening.	AAU transfers still have a complex reputation and planning on this end might endanger the Annex B inscription aspirations of Kazakhstan. The development of an elaborate greening mechanism may help to contain the risk and reassure the international community.
2	Decide on whether to develop a Green Investment Scheme.	
<b>Regional Emission Trading Scheme</b>		
1	Define policy objectives and assess whether a trading scheme can contribute to meeting these objectives.	Consider that Emission Trading Schemes require a lot of institutional and government capacity to implement and operate.
2	When deciding to implement a scheme, define its scope and negotiate the targets and enforcement mechanisms with the private sector. Identify different scheme concepts: cap-and-trade (punitive and mandatory; voluntary, non-punitive), baseline-and-credit, other	Experience with Emission Trading Schemes in Europe shows that they are subject to complex negotiations with private sector



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	bonus schemes (coupled with tax rebates or other), etc. Contemplate linking a scheme chosen to other carbon market—this could reduce price volatility and increase mitigation action.	stakeholders and others affected by the reduction targets.
<b>Voluntary Carbon Market</b>		
1	Take a clear position on whether the Government supports the development of projects under the voluntary carbon market or not. Clarity on the estimated date at which Kazakhstan may become eligible for JI would also allow the private sector to assess the feasibility of voluntary action and anticipate on possible graduation of the project to JI.	No risks identified.
2	Consider issuing voluntary certificates as fall-back-option for anticipated JI in case Annex B inclusion fails within a timeframe set.	No risks identified.



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# 7 Kazakhstan's Emission Reduction Potential

In 2005 Kazakhstan's annual emissions were around 243 million tCO<sub>2</sub>eq.<sup>64</sup> In 2006 the carbon intensity of Kazakhstan's economy was 5.49 tCO<sub>2</sub>eq/USD,<sup>65</sup> among the highest in the world. An important source of emissions is the country's power production, which is heavily based on coal, while the country's renewable energy potential is largely untapped.<sup>66</sup>

**Table 9: Emission indicators for Kazakhstan compared with other countries.**<sup>67</sup>

Country	Emissions per GDP (tCO <sub>2</sub> eq/USD)	Emissions per capita (tCO <sub>2</sub> eq/capita)
Uzbekistan	5.87	4.25
<i>Kazakhstan</i>	<i>5.49</i>	<i>11.89</i>
Russian Federation	4.25	11.14
China	2.68	4.27
United States	0.51	19.00
United Kingdom	0.32	8.86
Japan	0.24	9.49

Note: these indicators are from the IEA web-site. Since the IEA uses a different emission calculation than the UNFCCC, values may differ with the UNFCCC figures.

The Kazakh Government foresees continued economic growth and expects Gross National Product growth rates over 10%.<sup>68</sup> Without measures to reduce GHG emissions, this growth in economic activity will most likely be paralleled by an increase in GHG emissions.

Individual projects supported with carbon finance can help to decouple the forecasted economic growth from growth in greenhouse gas emissions. A number of projects have already been developed or identified.

Both the Climate Change Coordination Centre<sup>69</sup> and the Ministry of Environment prepared lists of identified project opportunities (see Appendix 1). The main opportunities

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<sup>64</sup> Ministry of Environment Protection, Kazakhstan's Second National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change (Astana, 2009), available at <http://unfccc.int/resource/docs/natc/kaznc2e.pdf>.

<sup>65</sup> International Energy Agency, Selected 2006 indicators fro Kazakhstan, available at: [http://www.iea.org/Textbase/stats/indicators.asp?COUNTRY\\_CODE=KZ](http://www.iea.org/Textbase/stats/indicators.asp?COUNTRY_CODE=KZ), visited 30 September 2009.

<sup>66</sup> United Nations Development Program, Gennady Dorosin, "Renewable Energy in Kazakhstan: problems and prospects, June 2008, available at: <http://www.developmentandtransition.net/index.cfm?module=ActiveWeb&page=WebPage&DocumentID=685>, accessed 20 July 2009.

<sup>67</sup> International Energy Agency (IEA) web-site: <http://www.iea.org>, visited at 30 June 2009.

<sup>68</sup> Kazakhstan's Second National Communication (Astana, 2009).

<sup>69</sup> Climate Change Coordination Centre: [www.climate.kz](http://www.climate.kz).



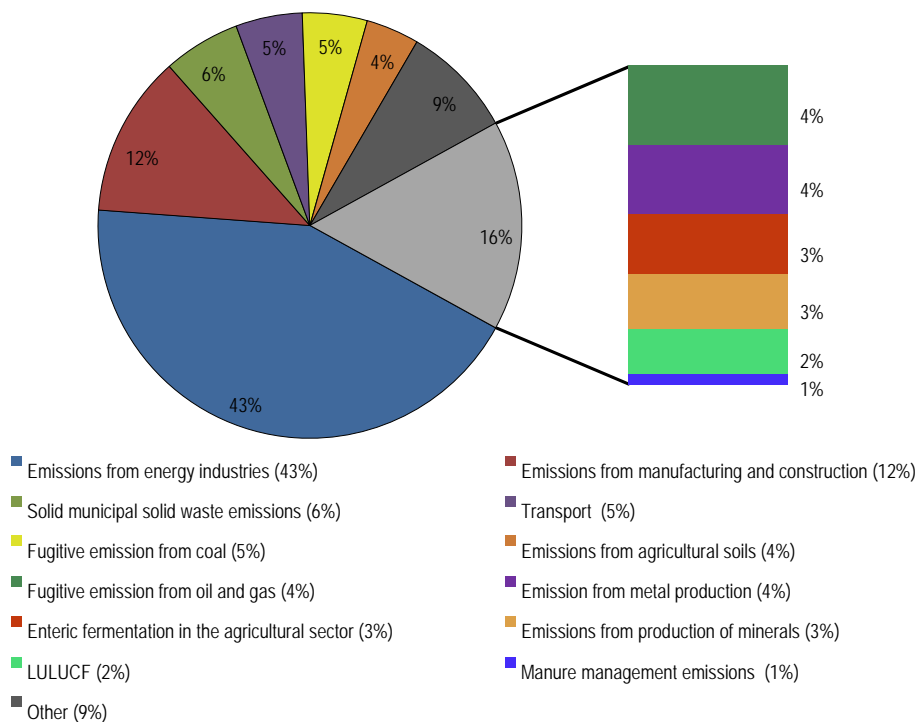
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identified are in the energy sector both in power generation with wind or hydropower, reduction of methane emissions from coal and oil extraction and improvement of the efficiency of power and heat generation plants. For most of these projects technical and financial feasibility studies are available. Some projects are more advanced and are in the process of arranging financial closure or are even under construction.

An early initiative to develop a JI project was launched by New Energy and Industrial Technology Development Organization (NEDO) in 2002.<sup>70</sup> The project was developed in cooperation with the Kazakh Government. The outstanding eligibility of Kazakhstan to participate in JI delayed further development of the emission reduction potential of this project.

## 7.1 Kazakhstan's 2005 Inventory

Kazakhstan's most recent greenhouse gas inventory covers the country's emissions in 2005. It shows that the largest sources of greenhouse gas emissions are the energy, manufacturing and construction industries. Figure 5 provides an overview.



**Figure 5: GHG emissions in Kazakhstan in 2005.<sup>71</sup>**

<sup>70</sup> Project # 12 in Appendix 1.

<sup>71</sup> Ministry of Environment Protection (MoEP), Kazakhstan's Second National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change (Astana, 2009), available at <http://unfccc.int/resource/docs/natc/kaznc2e.pdf>.



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The section below describes the reduction opportunities in each sector in more detail, using the country's National Communication as the basis for analysis.

### 7.2 Power and heat generation

*Power and heat generation.* Kazakhstan's power and heat demands are met by up to 85% from coal combustion.<sup>72</sup> Coal is a very carbon intensive fuel, making the power and heat generation one of the main sources of GHG emissions in the country. Key measures to reduce emissions from the energy sector are:

- retrofitting existing power, heat and cogeneration plants;
- increased use of renewable energy sources;
- retrofitting the power and heat distribution networks; and
- fuel switch, from example from coal to natural gas.

According to the National Communication, using existing technologies the energy sector would reach 1992 emission levels in 2012-2014. The introduction of more efficient coal fired power plants would delay this to 2024. The average efficiency of Kazakhstan's coal fired power plants is 30% to 32% while 42% to 53% is technically feasible. As a single unrelated measure,<sup>73</sup> improving the efficiency to world level yields a CO<sub>2</sub> emission reduction of 30%, or 27 million tCO<sub>2</sub>eq/year. The National Communication indicates the installation of combined cycle gas turbine stations is the most effective measure in terms of investment per tCO<sub>2</sub>eq reduced.<sup>74</sup>

*Distribution efficiency.* Apart from inefficient generation, the power and heat distribution networks also have high losses. Estimates of the distribution losses vary from 10% to 15%. Although the large distance may explain part of the losses, optimisation of power distribution would lead to significant GHG emission reductions.<sup>75</sup> The poor energy generation and distribution infrastructure in Kazakhstan is already a cause for black-outs and will be insufficient to meet the growing power demand in the near future. Plans developed by the Kazakh Government aim at meeting future demand with new thermal power plants and hydropower stations.<sup>76</sup>

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<sup>72</sup> International Institute for Sustainable Development (IISD), Clean Energy Investment in the Former Soviet Union (Ukraine and Kazakhstan) – the domestic context-, August 2008.

Energy Information Administration (EIA), Country balances: Kazakhstan, 2006.

<sup>73</sup> Throughout this section reported emissions reduction potentials assume that all other parameters remain constant. For example, when combining power plant retrofit with fuel switch, the combined sum of reductions from these two measures individually is larger than the reductions when combining these measures. Retrofits are more effective at carbon intensive coal fired power plants compared to gas fired power plants.

<sup>74</sup> This calculation is based on the 2005 GHG emissions inventory in Kazakhstan: 2005, available at: [http://unfccc.int/ghg\\_data/items/3962.php](http://unfccc.int/ghg_data/items/3962.php), accessed 20 July 2009. This inventory provides more detail on the energy industries than the National Communication but its emission estimates are slightly different.

<sup>75</sup> (MoEP, 2009) and (IISD, 2008)

<sup>76</sup> Energy Information Administration (EIA), Country Analysis Briefs: Kazakhstan, February 2008.



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*Fuel switch.* Kazakhstan produces natural gas. Fuel switch from coal to gas in the heat and power sectors would result in significant emission reductions. The CO<sub>2</sub> emission reduction potential of a fuel switch project is around 40%, not taking into account the potential extra energy efficiency improvements of these projects. For the coal-fired capacity in the Kazakh energy sector this would yield a potential reduction of 37 million tCO<sub>2</sub>eq/year.<sup>77</sup>

*Renewables.* Kazakhstan generates 12% of its power from renewable sources, mainly from five large hydropower stations.<sup>78</sup> The National Communication states that only 21 out of the 90 small hydropower stations in Kazakhstan are operational. The operational stations have a total capacity of 78 MW. In addition to the potential of recovering old hydropower stations, Kazakhstan is constructing 450 MW large hydropower capacity.<sup>79</sup>

Kazakhstan's main power generation capacity is located in the northern regions, creating a power deficit in the southern and south-eastern territories. Since these are the areas with the main renewable energy potential from wind and hydropower, the development of renewables could help overcome the power deficit in these areas and reduce transport distances and distribution losses.<sup>80</sup>

Kazakhstan aims at generating 5% of its power from renewable energy – not counting large hydro power - in 2024. The carbon intensive power generation gives the country a high grid baseline. Kazakhstan has a large wind power potential. A wind project that offsets power generated with fossil fuel-fired power plants can generate a relatively large amount of emission reductions. A UNDP “Draft national plan for the development of wind power” aims at 300 MW installed capacity by 2015. Small hydropower stations can add another 100-120 MW, and two large hydropower stations another 350 MW.

A key barrier to the development of renewable energy is the low energy prices in Kazakhstan. The use of coal-fired plants beyond their useful lifetime allows delivering electricity at a very low price, discouraging new entrants and renewable energy development. In July 2009 the new Law on the Use of Renewable Energy Sources came into effect and introduced preferential feed-in tariffs and off-take guarantees for power from renewable energy sources.<sup>81</sup> Carbon finance can support the objective of this law. For the incentives from carbon finance and environmental legislation to support each other, it is important to align legislation on both topics.

*Nuclear power.* Kazakhstan closed its single Aktau 90 MW nuclear power plant in 1999 but there are plans to construct two new nuclear power plants which could start operation in the period 2016-17. Kazakhstan possesses around 20% of the world's uranium reserves, making nuclear power an attractive option. However, support for nuclear power from

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<sup>77</sup> Calculation based on the CO<sub>2</sub> emission factors of natural gas compared to lignite or anthracite coal. The emission factors are from the 2006 IPCC Guidelines for National Greenhouse Gas inventories, Volume 2, Energy. The emission data is from the Kazakh 2005 inventory.

<sup>78</sup> Energy Information Administration: Kazakhstan Country Analysis Brief, Feb. 2008, <http://www.eia.doe.gov/emeu/cabs/Kazakhstan/pdf.pdf>, accessed 26 June 2009

<sup>79</sup> Kazakhstan's Second National Communication (Astana, 2009).

<sup>80</sup> (IISD, 2008)

<sup>81</sup> Law No. 165-IV of the Republic of Kazakhstan On Support for Renewable Energy Sources, dated 4 July 2009.



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Kazakhstan society is low due to the country's negative experience with the Semipalatinsk nuclear weapons testing site.<sup>82</sup> In addition, if high investment costs are a barrier for investments in renewable energy this may apply even more to nuclear power.

The use of nuclear energy may displace fossil fuels. Emission reductions from nuclear power are however currently not eligible under JI or CDM. This could change however.<sup>83</sup> The main forum for discussion on post-2012 JI is the 'Ad hoc working group on further commitments for Annex 1 Parties under the Kyoto Protocol' (AWG-KP), established by the COP/MOP in December 2005.<sup>84</sup> The AWG-KP develops 'possible improvements' to the flexible mechanisms including JI.<sup>85</sup> One of the items on the agenda is whether to maintain the position that nuclear power is not eligible under JI or to make nuclear power eligible under JI and allow Annex 1 parties to use for Kyoto compliance 'emission reduction units issued for such projects, on the basis of emission reductions achieved during the second commitment period'.<sup>86</sup>

### 7.3 Industrial processes

Table 10 provides an overview of the GHG emissions from the industrial sector in Kazakhstan.

**Table 10: Greenhouse gas emissions from industrial processes (tCO<sub>2</sub>eq/year).<sup>87</sup>**

Industry sector	2005 emissions (MtCO <sub>2</sub> eq/year)	Industry	2005 emissions (MtCO <sub>2</sub> eq/year)
Metal production	9,034	Steel	6,795
		Ferroalloys	2,239
Mineral production	6,115	Cement	1,152
		Limestone and dolomite	4,203
		Lime	760
Chemical industry	144	Chemical industry	144
Total	15,293		15,293

Most of the industrial emissions are from steel and mineral production. Reductions in these areas can be achieved by energy efficiency measures or measures that reduce process emissions. There are many examples of such JI projects and some of them are registered by the JI Supervisory Committee under Track 2.

Energy efficiency currently makes up 15% of the global JI pipeline, which is mainly industrial projects in district heating, industrial combined heat and power installations, steel and paper mills, most of them in Russia and Ukraine. Given the synergies between

<sup>82</sup> International Atomic Energy Agency, [www.iaea.org](http://www.iaea.org), Kazakhstan, 2002 and (IISD, 2008).

<sup>83</sup> FCCC/KP/AWG/2009/10, Ad Hoc Working Group on Future Commitments for Annex I parties under the Kyoto Protocol, Note by the chair, 1 July 2009, advance version, para 30-33.

<sup>84</sup> See <[http://unfccc.int/kyoto\\_protocol/items/4577.php](http://unfccc.int/kyoto_protocol/items/4577.php)>, accessed 19 March 2009.

<sup>85</sup> FCCC/KP/AWG/2008/INF.3 (2008) 1.

<sup>86</sup> FCCC/KP/AWG/2008/INF.3 (2008) 13.

<sup>87</sup> Kazakhstan's Second National communication (Astana, 2009).



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the Russian, Ukrainian and Kazakh economies, these projects may also have a large potential in Kazakhstan. In the voluntary market there is small number of industrial energy efficiency projects, in particular under the Gold Standard. However, the Gold Standard formulated additional requirements for cogeneration, waste gas and waste heat recovery projects.

### 7.4 Fossil fuel extraction

According to the National Communication, methane emissions from coal, oil and natural gas extraction in Kazakhstan in 2004 are close to 20 million tCO<sub>2</sub>eq, of which 55% are from coal extraction. These fugitive emissions make up 4.3% of total domestic emissions. Actual figures may be different since the 2005 inventory of Kazakhstan indicates that estimates of fugitive emission have an uncertainty of +/- 20% to +/- 35%.<sup>88</sup> A study conducted by the National Oceanic and Atmospheric Administration estimates that Kazakhstan flared about 8 billion cubic metres of natural gas in 2006.<sup>89</sup> This amounts to 15 million tCO<sub>2</sub>eq.

When using methane from coal, or oil and gas extraction to replace bituminous coal as an energy source, the gas represents a theoretical emission reduction potential of nearly 90 million tCO<sub>2</sub>eq. Kazakh companies have expressed their interest in reducing gas flaring, for example by using it for electricity generation or (re)injecting it into the oil field. The Government at the same time tries to reduce illegal flaring.<sup>90</sup>

Coal layers in Kazakhstan contain relatively high amounts of methane. Only 11% of the coal mines in Kazakhstan are underground mines but they emit around half of all coal mine methane. These mines report methane emissions of 33 m<sup>3</sup>/tonne coal. Some of the underground mines operate surface wells and some use the gas for heating but the majority vent the gas. Some projects in which coal mine methane is extracted and used are already commercially viable. Supporting government policies and safety concerns by mine operators stimulate further development in this area.<sup>91</sup>

It is more difficult to capture the gas from open pit mines and combust it. The CDM methodology for coal mine methane projects excludes open pit mines.<sup>92</sup>

Projects that reduce flaring of associated gas or that reduce methane emissions from coal mines and gas pipelines are very common under JI and methodologies are available to guide the development of an ex ante reduction estimation and monitoring system. Very few projects in the voluntary market aim at reducing methane emissions from fuel

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<sup>88</sup> GHG emissions inventory in Kazakhstan: 2005, available at: [http://unfccc.int/ghg\\_data/items/3962.php](http://unfccc.int/ghg_data/items/3962.php), accessed 20 July 2009.

<sup>89</sup> Energy Information Administration (EIA): Kazakhstan Country Analysis Brief, Feb. 2008, <http://www.eia.doe.gov/emeu/cabs/Kazakhstan/pdf.pdf>, accessed 26 June 2009

<sup>90</sup> EIA, 2009, IISD, 2008.

<sup>91</sup> Methane to Markets, Coal Mine Methane Global Overview: Chapter 18 Kazakhstan (summer 2008), available at: <http://www.methanetomarkets.org/resources/coalmines/overview.htm>

<sup>92</sup> ACM0008 "Consolidated methodology for coal bed methane, coal mine methane and ventilation air methane capture and use for power (electrical or motive) and heat and/or destruction through flaring or flameless oxidation", Version 06.





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extraction. Only the Chicago Climate Exchange has a Coal Mine Methane project. However, the Voluntary Carbon Market supports these projects and only restricts the eligibility of HFC<sub>23</sub> projects to non-Annex B countries. The Gold Standard is more restrictive on the use of associated gas and methane recovery unless the gas is from renewable energy sources.

### 7.5 Residential and transport sector

The emission reduction potential of energy efficiency projects in the residential sector and transport sector is often underestimated. Direct emissions from the residential sector are often small in greenhouse gas inventory data since emissions from heat and power production are allocated to the energy sector. Also transport emissions tend to be underestimated since they often exclude bunker fuels from international shipping and aviation.

Energy efficiency measures in households and in the transport sector can seriously reduce emissions. Projects aimed at the residential or transport sector are difficult under JI since it involves a large amount of small units (e.g. households or apartment blocks). With the development of Guidelines for Programmatic Joint Implementation by the JISC, the development of programs with a growing portfolio of small units may become easier.<sup>93</sup> For example, more remote areas where households are not connected to a central heating grid, household solar boilers may provide a sustainable alternative heat source. This is a project type that is very suitable for a programmatic approach.

Emissions from the transport sector are relatively small but the use of biodiesel and ethanol bears potential to reduce emissions from the transport sector. Kazakhstan has a large agricultural sector and potential to produce biodiesel from canola. One biodiesel plant and two bio-ethanol plants are already operational. The domestic market for biodiesels is limited due to the low fuel prices and most of the biofuels are exported. When targeting the domestic market Kazakhstan could use its biodiesel potential to reduce greenhouse emissions.

Emissions from international shipping and aviation are recorded in the reporting obligations under the Convention but they are not counted towards the Kyoto obligation.<sup>94</sup> That also excludes these sectors from JI projects but makes it an interesting target for voluntary emission reduction projects since they are free from considerations on double counting with Annex I Kyoto obligations.

Developing projects in the transport and residential areas is relatively difficult because these sectors typically involve small and dispersed activities and projects that would be too small for the traditional stand-alone approach a chance to participate in JI, like households or vehicles. This complicates monitoring and project organisation. The CDM Executive Board launched Programmatic CDM Guidelines in June 2007<sup>95</sup> and published

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<sup>93</sup> The JISC published draft guidelines for Programmatic JI in Annex 5 of its 15<sup>th</sup> meeting in April 2009, available at: [http://ji.unfccc.int/Sup\\_Committee/Meetings/index.html](http://ji.unfccc.int/Sup_Committee/Meetings/index.html), accessed 22 July 2009.

<sup>94</sup> See: [http://unfccc.int/methods\\_and\\_science/emissions\\_from\\_intl\\_transport/items/1057.php](http://unfccc.int/methods_and_science/emissions_from_intl_transport/items/1057.php)

<sup>95</sup> All EB meeting reports are available at: [http://cdm.unfccc.int/EB/archives/meetings\\_09.html](http://cdm.unfccc.int/EB/archives/meetings_09.html)



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improved Guidelines in May 2009. The JI Supervisory Committee followed and published draft guidelines for Programmatic JI in April 2009.<sup>96</sup> Once finalised, Programmatic JI would 'help overcoming the barriers of the dominant single project-oriented regulations of JI.'<sup>97</sup> Key benefits of Programmatic JI are:

- for determining a JI project while adding further units after final determination, allowing for the project to grow over time; and
- allowing for sampling as means to determine baseline emissions and monitor reductions.

There are no approved biofuel projects under JI nor CDM where the oil is sourced from dedicated plantations. Various attempts by project developers to address concerns by the CDM Executive Board have been in vain, even though the suggestions were approved by the Methodology Panel. JI Track 1 projects do not need prior approval of their methodology. There are three biofuel projects in the JI pipeline but they are not yet registered.<sup>98</sup>

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<sup>96</sup> All JISC meeting reports are available at: [http://ji.unfccc.int/Sup\\_Committee/Meetings/index.html](http://ji.unfccc.int/Sup_Committee/Meetings/index.html)

<sup>97</sup> K. Oppermann (KfW Bankengruppe), PoA Blueprint Book -Guidebook for PoA coordinators under CDM/JI- (Frankfurt am Main, 2009).

<sup>98</sup> UNEP RISØ pipeline from June 2009: 1) Sunflower and rape seeds - bio diesel fuel production and use for transportation in Bulgaria, 2) EuroETHYL Bioethanol Plant Project, 3) Procera Biodiesel Production Plant, in Romania.



## 8 Conclusions

The opportunities for Kazakhstan to engage in the carbon markets can be summarised as follows:

1. The private sector in Kazakhstan has been reluctant to engage in carbon finance-backed investments. This is mainly due to the regulatory uncertainty regarding the country's position under the Kyoto Protocol. However, the international carbon markets offer opportunities for private and state investment alike and the Government of Kazakhstan can facilitate engagement from all sides by clarifying its strategy and involvement in the trading mechanisms under the Kyoto Protocol and by setting a number of important incentives.
2. The main JI emission reduction opportunities in Kazakhstan are:

Measure	Theoretical Emission Reduction Potential
Renewable energy projects, in particular wind and hydropower projects	-
Fuel switch from coal to gas of coal fired power plants	37 million tCO <sub>2</sub> eq/year
Energy efficiency projects in the Kazakh coal fired power plants	27 million tCO <sub>2</sub> eq/year
Using associated gas from coal, oil and natural gas extraction to replace coal for power generation	~90 million tCO <sub>2</sub> eq/year

Note: the emission reduction potentials are estimated assuming that other parameters remain constant, basically presenting the potential when measures are taking in isolation.

3. Most JI project categories applicable to Kazakhstan have already been tested in other Annex B countries. Exceptions are biofuel projects with oil production from dedicated plantations, methane recovery from open pit mines and nuclear power plants. Although there are a few biofuel projects under development in JI, there is no approved CDM methodology available for this category. GHG emission reductions from nuclear power plants are not eligible under JI but this is currently discussed and may change by a decision at COP level. The other projects merely require the development of a methodological basis as precedents under JI or CDM are lacking.
4. Early action of JI project developers in Kazakhstan can be encouraged by rewarding emission reductions achieved before Kazakhstan and the project becomes eligible for JI, with voluntary market credits or with AAUs. Participation of project developers in the voluntary carbon market formally does not require government involvement. The Government could, however, send a strong signal to the market by supporting initiatives from the private sector to participate in the voluntary carbon markets. Support for early action to reduce greenhouse gas emissions would even be stronger when the Government of Kazakhstan decides to guarantee future issuance of AAUs for emission reductions achieved before Kazakhstan becomes eligible for JI. The Kazakh Government could consider supporting early action by issuing Letters of Approval, clearly outlining the conditions under which a project participant can receive AAUs.



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5. The voluntary market potential in Kazakhstan depends on the voluntary market standards that will be applied. The two largest standards are the Voluntary Carbon Standard and the Gold Standard. The scope of the VCS is broader than the Gold Standard which includes only three out of the six greenhouse gas categories that are covered under the VCS and the Kyoto Protocol. In addition, the Gold Standard formulated additional sustainable development criteria for specific project types with an increased risk of having negative environmental side effects.
6. The Kyoto mechanisms may be able to support the Government of Kazakhstan in achieving its goals and targets for the improvement of energy efficiency and broader use of the country's renewable energy potential. To avoid that legislation hampers the demonstration of additionality of potential JI projects, the Government of Kazakhstan should integrate carbon finance in its low-carbon strategies and legislation aimed at reducing greenhouse gas emissions.



## APPENDIX 1: Relevant UNFCCC Documents

Document #	Document Type	Title	Date Published
1	Letter	<a href="#">Letter dated 24 November 1997 from the Permanent Representative of Kazakhstan to the United Nations addressed to the Secretary-General.</a>	01/02/1997
2	Report	<a href="#">Initial National Communication of the Republic of Kazakhstan under the UNFCCC.</a>	1998
3	Amendment Proposal	<a href="#">Amendment to annex I to the Convention. Proposal from the Republic of Kazakhstan to amend annex I to the Convention.</a>	28/05/1999
4	Letter	<a href="#">Letter from the Central Asia, Caucasus and Moldova countries on their status under the Convention. Note by the secretariat. Contains letter dated 27 July 2001 signed by Armenia, Turkmenistan, Uzbekistan, Kazakhstan and Moldova on behalf of the Central Asia, Caucasus and Moldova group of Countries to the Executive Secretary raising a question regarding their status under the Convention</a>	11/10/2001
5	Proposal	<a href="#">Proposal to amend the lists in Annexes I and II to the Convention. Amendment proposed by Kazakhstan to add its name to the list in Annex I. Recommendation of the Subsidiary Body for Implementation.</a>	03/11/2001
6	Conclusions	<a href="#">COP Conclusion regarding the amendment proposed by Kazakhstan to add its name to the list in Annex I to the Convention</a>	09/11/2001
7	Report	<a href="#">National inventory 2004</a>	2004
8	Draft Conclusions	<a href="#">Information on the base year of the Republic of Kazakhstan. Draft conclusions proposed by the President.</a>	13/11/2006
9	Draft Conclusions	<a href="#">Review of the Kyoto Protocol pursuant to its Article 9. Draft decision proposed by Australia, Canada, Iceland, Japan, Kazakhstan, New Zealand, Norway, Russian Federation, Switzerland and Ukraine.</a>	14/11/2006
10	Report	<a href="#">Report of the Conference of the Parties on its twelfth session including a section on the base year of Kazakhstan.</a>	26/01/2007
11	Note	<a href="#">Provisional agenda and annotations. Note by the Executive Secretary. Addendum. Supplementary provisional agenda and additional information on the High-level segment.</a>	24/11/2008
12	Letter	<a href="#">Letter dated 3 November 2008 from Kazakhstan addressed to the Executive Secretary of the secretariat of the United Nations Framework Convention on Climate Change on information on voluntary quantitative commitments for Kazakhstan</a>	26/11/2008



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		<a href="#">for the period 2008-2012. A request has been received by the secretariat from the Government of Kazakhstan to include this item in the provisional agenda for the fourteenth session of the Conference of the Parties (COP).</a>	
13	Draft Conclusions	<a href="#">Information on voluntary quantitative commitments for Kazakhstan for the period of 2008-2012.</a>	10/12/2008
14	Report	<a href="#">Kazakhstan's Second National Communication to the Conference of the Parties of the UNFCCC.</a>	2009



## APPENDIX 2: Project Opportunities

The following overview of project opportunities in Kazakhstan provides insight in the kind of projects that Kazakh entities identified. The list is not complete or without overlap.

#	Project name	Investment costs (million USD)	Annual reductions (tCO <sub>2</sub> eq/year)	Status	Source	Comments
1	Rehabilitation of Hydro Power Plants (HPPs) on the Charyn River: Aktogay #2 HPP (1000 kW) and Aktogay #1 HPP (800 kW).	1.15	14,689	Pre-feasibility study completed	Climate Change Coordination Centre	These are two small projects of 1.8 MW. Total potential is 23 small and medium-size projects of 600 MW total.
2	Improvement of efficiency of the heat-supply system	0.20	2,069	Pre-feasibility study completed	Climate Change Coordination Centre	The project is located in Almaty.
3	Development of heat supply system	2.2	100,000	Pre-feasibility study completed	Climate Change Coordination Centre	The project is located in Astana.
4	5 MW Wind Power Station in Yereymentau	7.2	14,944	Preliminary technical and financial feasibility studies drafted	Climate Change Coordination Centre/ Ministry of Environmental Protection	The project is located in Akmola oblast (potential in this oblast is 175 MW).
5	Use of methane from the mines of the Karagandy Coal Basin	3.7	T.b.d.	A rough technical project design has been drafted	Climate Change Coordination Centre	The project is located in Central Kazakhstan, Karaganda basin
6	Construction of Kerbulak HEPP of 49, 5 MW capacity	90.0	380,162	Pre-feasibility study completed	Climate Change Coordination Centre	The project is located in Almaty oblast.
7	Nurly 500MW Wind Power Station	550	1 540 498	Preliminary feasibility study completed	Climate Change Coordination Centre	The project is located in Almaty oblast.
8	Fuel switch from coal to natural gas in a 126 mw cogeneration plant in Almaty	260	584,908	Construction has started at 1 January 2008	Ministry of Environmental Protection	The emission reduction estimation is an average of estimates for different



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						scenarios.
9	Construction of Small Hydro Power Station (SHPS) on Merke River, 1.8 mw	1.78	12,00	Preliminary engineering and feasibility study have been finalised	Ministry of Environmental Protection	-
10	Construction of SHPS on Talas River, 1.5 MW	1.29	7,000	Preliminary engineering and feasibility study have been finalised	Ministry of Environmental Protection	-
11	PetroKazakhstan Company project on utilization of the associated gas at Kumkol oil field	35	500,000	-	UNIDO	-
12	Model project on energy saving at Uralsk CHPS	15	-	-	UNIDO	Performed by the Japanese governmental Company "NEDO" in cooperation with the Ministry of Energy and Mineral Resources
13	Three small hydro power demonstration projects	-	86,200	-	UNIDO	Initiated by Canadian International Development Agency (CIDA)
14	Power Generation Utilizing Biogas from Sewage Sludge and Organic Wastes	14.1	73,923	Pre-feasibility study completed	Japanese Ministry of the Environment	Initiated by Tohoku Electric Power Company
15	Hydropower station in the Asa river	4.7	4,850	Preliminary engineering and a rough feasibility study have been finalised	Ministry of Environmental Protection	Zhambyl Oblast
16	Construction of a 127 mw gas turbine power station in Aktyubinsk region	-	-	Financial closure pending	Ministry of Environmental Protection	-
17	Modernisation of heat supply system in Saran	-	52,735	Preliminary engineering and feasibility study have been finalised	Ministry of Environmental Protection	-





## APPENDIX 3: Kazakhstan's Roadmap

The Kazakhstan Government developed two roadmaps for 'fulfilment of the Kyoto Protocol'. One version has been approved by the Minister of Environment, Mr. Ashymov on 30 June 2009. This version covers 2009 and is for internal use within the Ministry of Environment. The second version is less detailed, covers the period 2009-2011 and has been presented to the Government for approval. Late September 2009 the document had not yet been approved.

The approved roadmap lists the following (groups of) activities:

- ratification of the Kyoto Protocol (scheduled for May 2009 and finalised),
- seeking (international) technical support with Kyoto Protocol implementation,
- training Kazakh organisations to participate in the international climate negotiations,
- attendance of climate change conferences and official UNFCCC meetings,
- contacting the different negotiation interest groups representing groups of Parties to the Kyoto Protocol and informing embassies of relevant Parties of Kazakhstan's ambitions and strategy towards the Kyoto Protocol,
- communication with the UNFCCC secretariat,
- organising workshops to support Kazakhstan's Kyoto Protocol strategy,
- implementing the JI participation requirements and developing related reports,
- develop a long-term strategy for the reduction of greenhouse gas emissions,
- depending on Government decisions: implementing a Green Investment Scheme, and
- development of a domestic trading scheme.

The roadmap includes relevant UNFCCC meetings and seminars and in preparation for the negotiations it refers to trainings of representatives from the Kazakh Research and Development Institute of Ecology and Climate (KRDIEC) and Coordination Center for Climate Change (CCCC). For example, Mr. Sakenov from CCCC presented Kazakhstan's intentions and position under the Kyoto Protocol at a JI workshop in Kiev in September 2009. Apart from the meetings of the subsidiary bodies in Bonn, Bangkok and Barcelona, the roadmap also lists participation at meetings of the Intergovernmental Expert Group for Climate Change, and Climate Conferences like "Better climate information for a better future" early September in Geneva. In the period July-November 2009, the Environment Ministry also plans to communicate with the different negotiation groups (G77, LDCs, CACAM, EIG, Umbrella Group, EIG, AOSIS, OPEC, African Group, CG-11,

The Kazakhstan Government cooperates closely with international organisations on its path to become eligible for JI and IET. In addition to EBRD support under which this report has been developed: (i) UNDP is supporting Kazakhstan in the international climate negotiations; (ii) a TACIS project has been launched to support Kazakhstan with meeting the eligibility criteria under the Kyoto Protocol and reporting requirements under the Convention and the Kyoto Protocol; (iii) the German Ministry of Environment and Ms. Opitz are supporting a project for the development of an inventory for a domestic trading scheme and (iv) the British Embassy is funding a series of workshops on emission trading throughout Kazakhstan, together with the Climate Change Coordination Centre. To ensure that all effort is complementary it is important that all activities are centrally coordinated by the Kazakhstan Government.



## APPENDIX 4: The Renewable Energy Law

Kazakhstan's main emission reduction potential lies in the energy sector, making renewable energy and energy efficiency two very important policy areas.

The Law No. 165-IV of the Republic of Kazakhstan On Support for Renewable Energy Sources, dated 4 July 2009 entered into force that same month and aims at creating favourable conditions for the use of renewable energy sources. Renewable energy sources are defined as hydropower facilities with up to 35 MW capacity, solar, wind and projects using renewable biogas, biomass and organic waste for the production of power and/or heat. Key elements of this law are:

- The grid operation companies shall purchase all power and/or heat from renewable energy installations.
- Power and/or heat off-take agreements should cover a period of at least the payback period of the installation as determined in the project's feasibility study.
- The power off-take price shall be set by the energy producer at its own discretion but will not exceed the value in the feasibility study.
- The energy producer can enter into delivery agreements with consumers. Energy distribution companies should make their grid available free of charge.
- The construction of infrastructure to connect a renewable energy project to the grid should be included in the project development costs.