Kyoto Protocol and its implementation in Bosnia and Herzegovina

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Executive summary

In 2007, the global scientific community agreed that climate change is undeniable and caused by anthropogenic greenhouse gas emissions. Predictions say that the impacts will have serious consequences on all aspects of our lives.

Globally, more attention is being paid to climate change and its effects. As a result, climate change mitigation activities have initiated creation of a large market with many players involved. So far, BiH has not benefited from this emerging market and new trading commodities. Carbon markets provide large opportunities to benefit from carbon trading while at the same time enabling countries to further development goals. In order to seize these opportunities, it is necessary for BiH policy makers to understand how the market works, what needs to be in place for these opportunities to be used, and what support the government and other institutions can give to advance the development of this sector.

The immediate step in Kyoto implementation is establishment of an appropriate institutional framework, the Designated National Authority. As there is no correct approach to establishing this institution, different models of institutional development have been tested against specific national circumstances.

The main purpose of this research is to inform policy making on the types of DNA structures established to date and to identify the most appropriate model to be applied in BiH. Apart from the overall objective of suggesting DNA model, this paper also aims to provide general guidance and background information on the CDM project cycle, project development procedures and players involved.

List of Acronyms

BiH	Bosnia and Herzegovina
CARDS	EU Community Assistance, Reconstruction, Development and Stabilisation Programme
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CIS	Commonwealth of Independent States
CO_2	Carbon dioxide
DNA	Designated National Authority
EC	European Commission
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
GHG	Greenhouse gas
JI	Joint Implementation
LoA	Letter of Approval
MoFTER	Ministry of Foreign Trade and Economic Relations
NGO	Non-governmental organization
PDD	Project design document
PIN	Project identification note
RS	Republika Srpska
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

There is no doubt that climate change is one of the most important issues facing the global community today. While there is a broad international scientific consensus that primary cause of climate change is increased anthropogenic emission of greenhouse gases (GHG), a considerable debate is still surrounding the question what are expected climate change impacts and their scale and what the response should be. Realizing that climate change is no longer questionable, the international community negotiated the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. To reinforce the goals of the Convention, the Kyoto Protocol was adopted in 1997, and came into force in February 2005, introducing binding individual country targets to limit or reduce GHG emissions.

The impacts of climate change are affecting almost all economic sectors including forestry, agriculture, tourism as well as natural ecosystems, biodiversity, human health, water resources and infrastructure. While there is insufficient scientific evidence supporting a link between weather extremes and climate change trends, there is little debate that BiH experienced recent changes in weather patterns and a substantial increase in floods, fires and droughts. Excerpts from news articles over the last 5 years illustrate the frequency and intensity of such weather events:

- In August 2002, BiH suffered the worst drought in 120 years and estimates say that agricultural production was reduced for 60% due to this severe water shortage further creating a serious food crisis.[1]
- A four-month drought and a series of storms hit several communities in BiH in Summer 2003. This caused an estimated EUR 200 million damage to agriculture and affected up to 200,000 people.[2]
- April 2004 flooding affected over 300,000 people in 48 municipalities in BIH. 20,000 ha of farming land were destroyed and the floods washed away several bridges. The water flooded water wells and broke into the water supply system contaminating drinking water.[3]
- Heavy rains and strong wind affected areas of BiH in December 2005 and 950 households (3,100 individuals) were evacuated.[4]
- In summer 2007, extreme heat and drought destroyed more than 40% of the country's crop production resulting in extremely high food prices.[5]
- Summer 2007 high temperatures in BiH caused great number of forest and wildland fires, affecting more than 250 ha.[6]

Acknowledging the significance of the climate change problem and the necessity to take effective actions for its mitigation, BiH ratified the UNFCCC in September 2000, and the Kyoto Protocol in April 2007, but to date its implementation has not been initiated, due to weak government capacities and low awareness of the convention requirements. The ratification of the Kyoto Protocol opened an opportunity for BiH to reduce its greenhouse gas emissions, mobilize resources for clean technologies and contribute to the sustainable development of the country. However, this requires substantial institutional capacities that BiH has not started developing yet. Establishment of an appropriate institutional framework for Kyoto participation would send a strong signal to the international community and potential investors that the country is ready for Kyoto implementation.

[1] Demuth, S. (2003). Low flows and droughts – A European perspective. IHP/HWRP Secretariat. Koblenz, Germany: Federal Institute of Hydrology.

[2] International Federation of Red Cross and Red Crescent Societies (IFRC). (2003, September 17). Bosnia and Herzegovina: Drought Information Bulletin, 1/2003.

[3] IFRC. (2004, July 2). Bosnia and Herzegovina: Floods Emergency Appeal, 11/2004 Operations Update No. 2.

[4] IFRC. (2005, December 18). Bosnia and Herzegovina: Floods Emergency, 05ME071 Information Bulletin No. 1.

[5] USA Today. (2007, July 26). Retrieved from www.usatoday.com on December 3, 2007.

[6] NATO. Helping Bosnia and Herzegovina fight the forest fires. (2007, July 29). Retrieved from http://www.hq.nato.int/eadrcc/2007/bosnia_and_herzegovina/index.htmL on December 3, 2007.

This paper is produced to inform policy making and provide support to the Government and other stakeholders in BiH to develop the national institutional framework for the Kyoto Flexible Mechanisms. The country ratified the Kyoto Protocol and needs to initiate the process of its implementation as soon as possible in order to maximize benefits from it. The paper focuses on immediate steps necessary to initiate the implementation and provide a comprehensive overview of the requirements and options for establishing a Designated National Authority. Four options have been explored and evaluated considering institutional issues and other circumstances specific to BiH and recommendations are provided for adopting the best approach to the institutional arrangement of the DNA.

2. The challenge of climate change

Following the legal tradition and global legal principles BiH succeeded the Former Yugoslavia as party to various international environmental conventions (EC Delegation to BiH, 2005). After becoming an independent state, BiH committed to more international binding documents, including climate change conventions, namely the UNFCCC and Kyoto Protocol. The EC Functional Review (2005) underlines the inability of the BiH administration to oversee and manage implementation of these multilateral environmental agreements, both those that were inherited and adhered to. The Report stresses that BiH lacks strategy for international environmental cooperation together with the estimation of the expected costs of implementation and especially clarification of internal institutional responsibilities. Even though the only state level policy document for environment sets BiH presence in international activities to prevent climate change as a strategic priority, no serious efforts have been made to reach this goal (FBiH, RS, 2003).

2.1 EU requirements

Once BiH becomes an EU candidate country, the timing of accession to the EU will depend on the progress made in preparing for the membership. The Maastricht Treaty has made environmental protection a key priority for the EU. Environmental responsibility is a key aspect of EU policy, initiatives and legislation. The Commission of the EU in its "BiH 2007 Progress Report" pointed out that BiH preparations in the field of environment remain at an early stage stating also that significant further efforts are needed in this sector. Further, the Report states that little progress has been achieved in the sector of renewable energy and energy efficiency (Commission of the European Communities, 2007). The environmental acquis appears to be one of the hardest chapters in the negotiation process since environmental policy regulations have significantly increased in recent years becoming one of the EU most extensive areas of laws.[7] All countries that recently went through the accession process requested transitional measures and technical adaptations to implement the environmental acquis. Croatian experience in the accession negotiations shows that the environment represents one of the most demanding legal areas and the government admits that efforts reaching priorities in the environment sector still have to be significantly intensified.

The EC and its Member States have ratified the Kyoto Protocol in 2002 by adopting Council Decision (2002/358/EC) of 25 April 2002 concerning the approval of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfillment of commit-

[7] See: European Parliament, Environmental Aspects of the Enlargement Negotiations of the Committee on the Environment, Public Health and Consumer Policy, European Parliament, Brussels, June 2000.

ments (Office for Official Publications of the European Communities, 2002). By adopting this Decision, EU Member States jointly committed to reduce GHG emissions and demonstrated their clear intention to contribute to the global action against climate change. The EC and its Member States are, therefore, jointly responsible (shared responsibility) both under international law (Articles 4.6 and 24.2 of the Kyoto Protocol) and under European Community law (Article 10 EC Treaty) (Massai, 2007). In line to this EU double-responsibility, BiH is at the moment responsible under the international law and will share the responsibility under the EC law once it becomes a full member.

2.2 The Bali Roadmap

The first commitment period of the Kyoto Protocol covers the five years from 2008 to 2012. The international framework for the second commitment period is currently being negotiated among countries.

The "United Nations Climate Change Conference in Bali" was held in December 2007, with the aim of finalizing the operational details of the Kyoto Protocol Adaptation Fund and setting a framework for negotiations on strengthening the UN climate change regime beyond the commitments of the Kyoto Protocol that will expire in 2012.

The conference resulted in the adaptation of numerous decisions and the approval of a number of conclusions. These outcomes cover a wide range of topics, including operational details of the Adaptation Fund, a decision on reducing emissions from deforestation in developing countries, outcomes on technology transfer and capacity building, the Kyoto Protocol's flexible mechanisms, the adverse effects of combating climate change, financial and administrative matters, and various methodological issues.

The main focus in Bali, however, was on long-term cooperation and the post-2012 period, when the Kyoto Protocol's first commitment period expires. Participants went beyond conference's scheduled timeline attempting to agree on a two-year process, or "Bali roadmap", to finalize a post-2012 regime by December 2009. Finally, by agreeing on this all Parties set guidance and direction for a series of meetings over the next two years under both the Convention and Protocol, with the aim of concluding a comprehensive framework for the post-2012 period in Copenhagen in 2009. Whatever the outcomes of these negotiations might be, already established institutional frameworks and carbon markets are likely to remain relevant.

2.3. Can BiH afford to do nothing?

An issue of concern in current BiH administrative setup is the lack of a systematic, strategic approach to international cooperation (UNECE, 2004). There is a serious deficiency in the administration of international obligations and the failure in fulfilling obligations. Main barriers for the successful implementation of international obligations, and in particular those related to climate change, lie in weak institutional capacities at all administrative levels. This further creates inability to assess the importance of the implementation for the country and the most effective institutional arrangement for the implementation. No effective implementation is possible as long as the role of all relevant actors (governmental, non-governmental, public and private sectors) is clearly addressed and identified.

In order to implement the Kyoto Protocol and participate in the CDM, BiH must meet eligibility criteria. There are only three basic requirements that countries that want to host CDM projects must meet:

- Voluntary participation;
- Establishment of a CDM Designated National Authority (DNA) for approval and project authorization, and
- Ratification of the Kyoto Protocol.

The next step and the main challenge for BiH is establishment of the DNA. An effectively operating institution should be well positioned to attract potential donors and investors to develop and invest in CDM projects in the country. Therefore, it is of utmost importance for BiH to initiate the DNA setup and use benefits from participation in the Kyoto Protocol by 2012, when its first commitment period expires and will be replaced with another international agreement.

2.4. Overview of the Clean Development Mechanism

The CDM is one of the three Kyoto Protocol Mechanisms introduced with the Marrakech Accords in 2001. It is defined by Article 12 of the Kyoto Protocol and it allows Annex I countries to invest in projects that reduce GHG in non-Annex I countries[8]. These projects or activities also must contribute to sustainable development objectives of CDM host countries or non-Annex I countries. Emission reduction credits gained are called Certified Emission Reductions (CERs) and one CER equals to one tonne of CO_2 equivalent.

The CDM is supervised by the Executive Board that composes of ten members including one member from each of the five UN regions, one representing the small island developing states and two from Annex I and non-Annex I Parties to the Protocol. The Executive Board issues accreditations to independent third parties (called Operational Entities) to validate proposed CDM projects and verify their emission reductions.

2.4.1. CDM Project Cycle

According to the Marrakech Accords, the CDM project cycle has five main stages: identification and formulation, national approval, validation and registration, monitoring, and verification and certification. Identification, formulation and national approval are pre-implementation steps, while monitoring and verification and certification are performed during the project implementation. A project proponent must identify a project and develop necessary documentation, obtain host country approval, secure project validation from an independent third party and register the project with the CDM Executive Board. After the registration, the project proponent must monitor the project and secure verification of the project emission reduction by an independent third party that cannot be the same party that validated the project. After verification, the CDM Executive Board issues CERs. Main CDM project cycle steps and responsibilities are summarized in Figure 1 below:

8 Annex I of the UNFCCC lists 41 countries, including industrialized countries and some countries with economies in transition. Those countries not listed in Annex I fall under the Non-Annex I category. Under the Convention, Annex I countries agreed to bring their emission levels down to the 1990 levels, while Non-Annex I countries agreed to adopt GHG-reduction policies, contributing to climate change mitigation but have no binding targets under the Convention.

ACTION	RESPONSIBILITY
Project identification and PIN development	Project Proponent
Development of a Project Design Document (PDD)	Project Proponent
Develop & submit new methodology / Methodology approval *	Project Proponent / Executive Board
DNA approval	Project Proponent / DNA
Validation	Designated Operational Entity
Registration	Executive Board
Monitoring	Project Proponent
Verification and Certification	Designated Operational Entity
Issuance of CERs	Executive Board

** Required only where approved methodology does not exist*

(Source: UNDP, 2006)

Figure 1:
Overview of the CDM Project Cycle

Every CDM project must use existing or develop and submit for approval a new methodology for determining project's baseline scenario and baseline emissions, demonstrate project's additionality of the emission reduction, and monitoring plan to verify that emission reductions are achieved.[9] There have been around 60 methodologies approved by the Executive Board as of November 2007 and in case none of the already approved methodologies is applicable to the proposed project, a new one has to be developed. The approval of a new methodology in general might take between 1 and 2 years.

[9] Baseline refers to the trend of GHG emissions in the absence of the CDM project and additionality refers to the reduction of GHG emissions below the baseline

3. Policy Options

Parties participating in the CDM must designate a National Authority to approve proposed CDM projects. The CDM Rules do not specify how should the DNA be established and which institution should act as the DNA. When assessing the options for the DNA structure to be applied in BiH, the political and institutional feasibility of establishing a successful entity was taken into account. This assessment was based on two elements that include the political environment for the CDM and the existing technical expertise. Within the assessment, the political environment was considered through the political will and stability, and institutional competition, while technical aspects included elements of general level of interest and understanding and level of technical expertise in climate change issues.

3.1 Proposed DNA functions

The only DNA function explicitly stated in the Kyoto Protocol is the issuance of the Letter of Approval (LoA) for proposed CDM projects (UNFCCC, 1998). This LoA has to state that the CDM participation is voluntary and that it contributes to the sustainable development of BiH. However, this paper suggests that BiH DNA performs other functions together with LoA issuance. Given that BiH is entering the CDM market at relatively late stage it is highly desirable that the country develops an outreach and implementation strategy to position itself at the market. The current CDM market is witnessing high competition of CDM host countries and

well established promotional and marketing strategies are necessary for catching up with the existing market pace. The following regulatory and promotional functions of BiH DNA are recommended:

- Develop sustainable development criteria for BiH and assess CDM project proposals against these criteria;
- Screen CDM projects and instruct project proponents to undertake environment impact assessment when required by the national EIA regulation
- Ensure stakeholder participation;
- Perform required communication to the UNFCCC Secretariat;
- Make available information on CDM projects submitted, project review procedures, and other supporting data for project proponents, and
- Regular communication and capacity building activities at local level for promoting CDM project identification

3.2. Proposed DNA structure

As mentioned above, the CDM Rules do not specify structure of DNAs for project host countries. The approaches taken by other countries to date show four possible models:

- DNA as a Single Ministry Model
- DNA as a Multi-tiered Inter-ministerial Committee Model
- Independent DNA outside the Government
- DNA as a new Government entity

Experience in other countries shows that the legal and administrative culture and structure in a country, available funding and the volume of CDM projects all affect DNA establishment and functioning (World Bank, 2003). These four models are further analyzed taking into account specific BiH context.

3.2.1. DNA as a single ministry model

The DNA as a single ministry model would under this option be located within an existing department or ministry. This simplified structure offers advantages of lower administrative costs, more efficient project processing and reduced coordination requirements. In this case, the Minister would sign the approval letter and a department or unit within the ministry would be responsible for project review and daily administration of the DNA. Since in BiH the MoFTER has been assigned responsibilities for environmental protection at the state level, this ministry is the only institution at the state level within which DNA could be placed. Moreover, most of the DNAs that have already been established across the world are located within ministries in charge of the environment because of their involvement in climate change, sustainable development and environmental impact assessment (UNDP, 2006). There were cases of establishing the DNA within energy ministries but in BiH administrative structure a separate department within the MoFTER already has responsibilities for the energy sector at the state level.

Since CDM projects are almost always multi-sectoral a single ministry DNA model would require different technical expertise during the project review stage. The model should take advantage of relevant expertise in other institutions and establish an inter-institutional review

committee. This committee could also use expert knowledge from NGOs, universities and industries. However, despite other institutions providing inputs to the project review, the final decision on project approval would rest with the Minister of MoFTER.

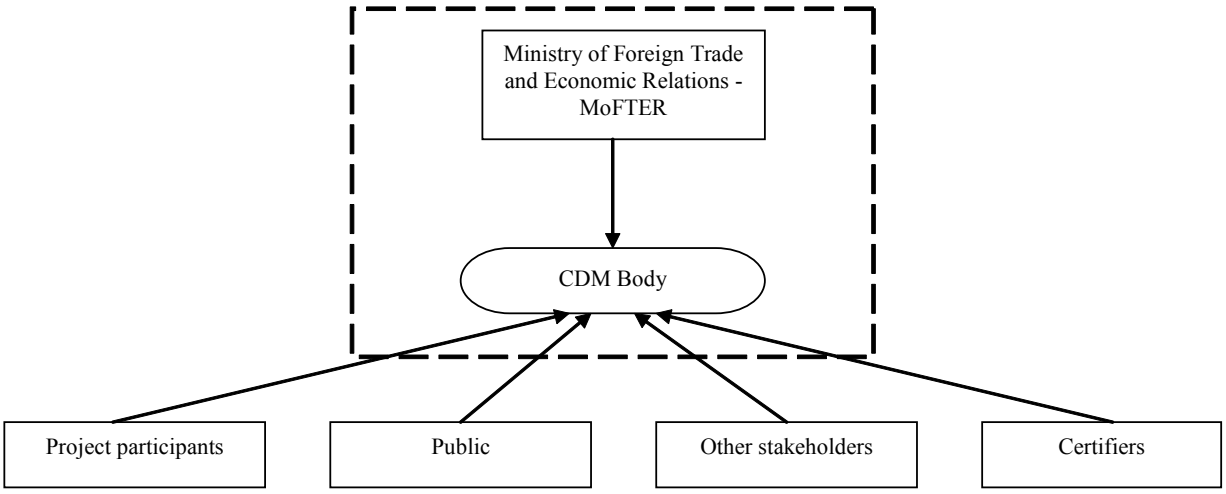
Unlike in some other sectors, the mandate of the state level in the environment field is limited. There is no permanent secretariat or unit at the state level to support the work of MoFTER. When environmental issues at the state level are discussed both entities have to be invited, which creates a major problem to the efficiency of environmental administration in BiH. Occasional inter-entity meetings are not sufficient to replace a permanent administrative structure neither can they be as efficient.

The structure of environmental administration consists of three levels of autonomy, namely state and two entity levels. This is also accompanied by up to four levels of administrative layers, which overall gives the public administration in the environment field a unique complexity. Its performance is characterized by delays, gaps, overlapping, duplication, unequal application of standards, and occasionally even conflicts of interest including legal conflicts.

Furthermore, this public administration complexity is maintained with the fact that the responsibilities of environmental administration in BiH are divided among multiple sectors. Parts of this responsibility belong to the urban planning sector, parts to water governing institutions, and parts to energy and forestry authorities. In this field no formal coordination is in place among different players, neither among municipalities nor between cantons. At the entity level there are two committees established that deal with water and environment and they meet periodically but often have to deal with many issues, which is difficult without the support of a permanent and institutionalized secretariat. Legal or institutional indication of cross-sectoral cooperation, even though it is a priority matter to the EU, does not yet exist in BiH (EC Delegation to BiH, 2005).

Benefits of establishment the DNA under this option would be low costs and relatively easy implementation as the new institution would rely on already existing infrastructure, but the challenge lies in the fact that this model concentrates the decision making power within one institution. This might cause significant problems among institutions and certainly will not contribute to their improved cooperation and coordination.

Figure 2:
Overview of Single Ministry Model DNA



3.2.2. DNA as a multi-tiered inter-ministerial committee model

Under this option the DNA would be created as an inter-ministerial committee with representatives from different ministries and institutions. It could also include representatives from NGOs, universities and industries. This committee would have the authority to approve projects and issue letters of approval. Prior to the project approval, all committee members would have to agree with this decision. One person would act as the chair, and in most cases this is either the Minister of Environment or UNFCCC Focal Point.

This approach to the DNA establishment enables wide stakeholder participation in the CDM. Although this approach might require additional time and effort, it ensures integration of CDM activities into broader country's policies such as sustainable development, energy policy, various social policies, etc. This approach also brings a larger set of technical knowledge and experience from different sectors. A potential disadvantage of this approach is that it might lead to higher administrative costs, increased coordination requirements and time delays in project approvals. In some countries, rivalries among different ministries and institutions and disagreements were significant to the extent that they impacted project approval time, which in return produced higher transaction costs and raised uncertainty among investors and project proponents (UNDP, 2006). This problem can be overcome by clearly defined decision-making rules among all committee members and by prescribing a defined timeframe within which they have to provide comments on project proposals.

In the context of BiH political and administrative structure, a multi-tiered DNA structure could consist of three organizational structures, namely DNA Board (DNAB), DNA Secretariat (DNAS) and already existing National Sub-Committee for Climate Change (NSCCC).

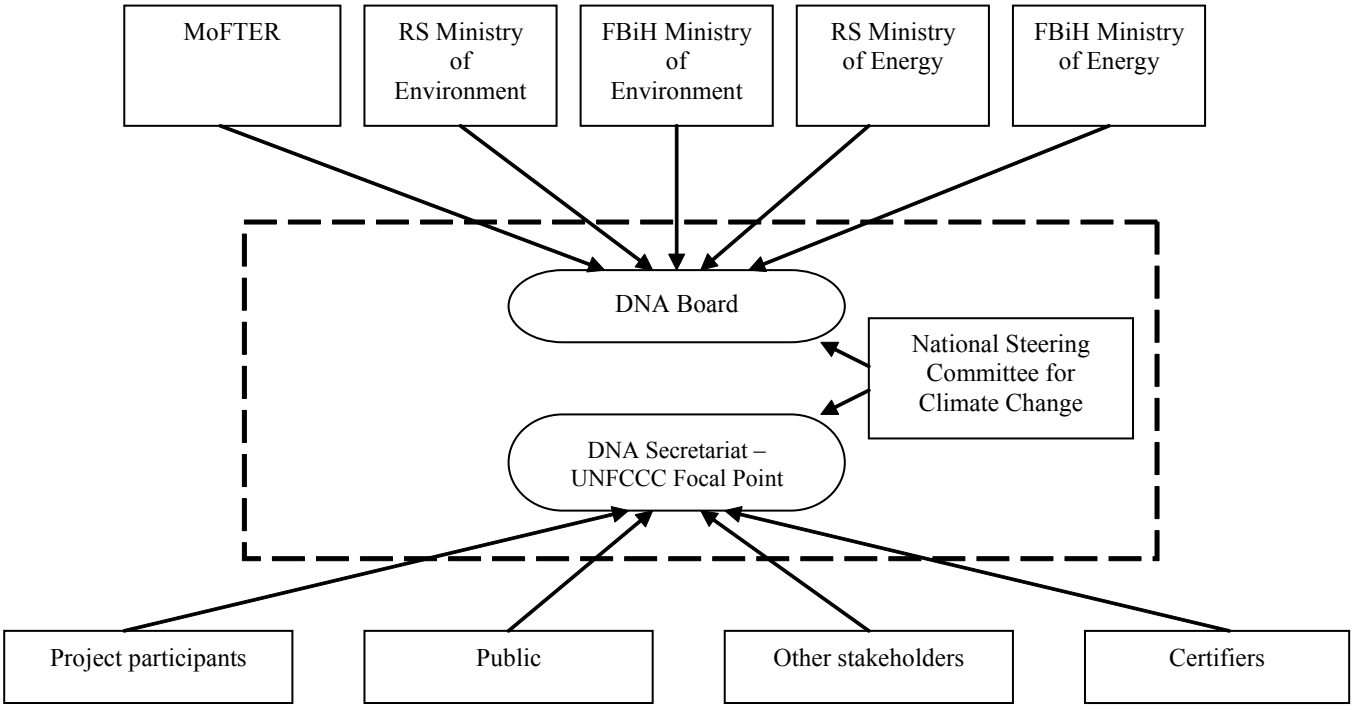
The DNAB would be responsible for all DNA activities and would consist of representatives from the State Ministry in charge of environment - MoFTER, two entity ministries of environment and two entity ministries of energy totaling 5 members. The DNAB would be chaired by the UNFCCC Focal Point, which at the moment is located at the RS Ministry in charge of environment. Its role and responsibility would be to provide guidance to the DNA activities and validate all decisions. Furthermore, the DNAB would serve as the focal point to the UNFCCC, validate DNA operational procedures and project evaluation guidelines and criteria, receive requests for project approvals, validate opinions from the DNAS, issue letters of approval and oversee CDM promotional activities.

DNAS would be responsible for performing operational activities including technical analysis, review of project documentation, drafting DNA opinions and decisions. It will perform its duties in close collaboration with the National Sub-Committee for Climate Change and would be located at the climate change focal ministry (RS Ministry in charge of environment). The DNAS would provide support to the DNA Board and manage daily DNA operations by performing preliminary screening of project proposals and their detailed assessment, requesting and considering opinions from the NSCCC, performing public consultation, drafting project approval opinion, monitoring project implementation and performing all promotional activities.

The NSCCC would act as an advisory body providing opinion on general or specific sectoral issues. The current NSCCC composition should be updated with members from entity ministries of economy, forestry, agriculture and water management, and foreign ministry. The NSCCC

would provide expert inputs and opinions to the DNAB and DNAS on project evaluation guidelines and criteria as well as on specific project proposals. It would, furthermore, validate baseline data stated in project proposals.

Figure 3:
Overview of multi-tiered inter-ministerial committee DNA model



3.2.3. Independent DNA outside the Government

This option proposes the establishment of an independent DNA office outside the existing Government structures. Under this model the DNA would operate independently of the Government provided that it received full authority through the legislation verifying that it is authorized to sign project approval letters on behalf of the Government. In the BiH context, there is currently no independent institution at the state level that could be appointed as the DNA. A good solution would be the Environment Agency but it has not been established yet due to the lack of political agreement. There is also no legal base for such outsourcing of the DNA function in terms of direct appointment to a non-government institution and the only possible option to pursue this DNA modality would be through the public procurement process. In this case, the Government would open the tender for procurement of services. According to the national Law on Procurement, consultancy services and complex procurement contracts require the restricted procedure, which is a complex and lengthy procedure.

The 2007 EU Progress Report for BiH states that the countries progress in the filed of public procurement was moderately advanced but also points out that there is a strong need to improve capacities to manage procurement procedures efficiently. All state level procurement

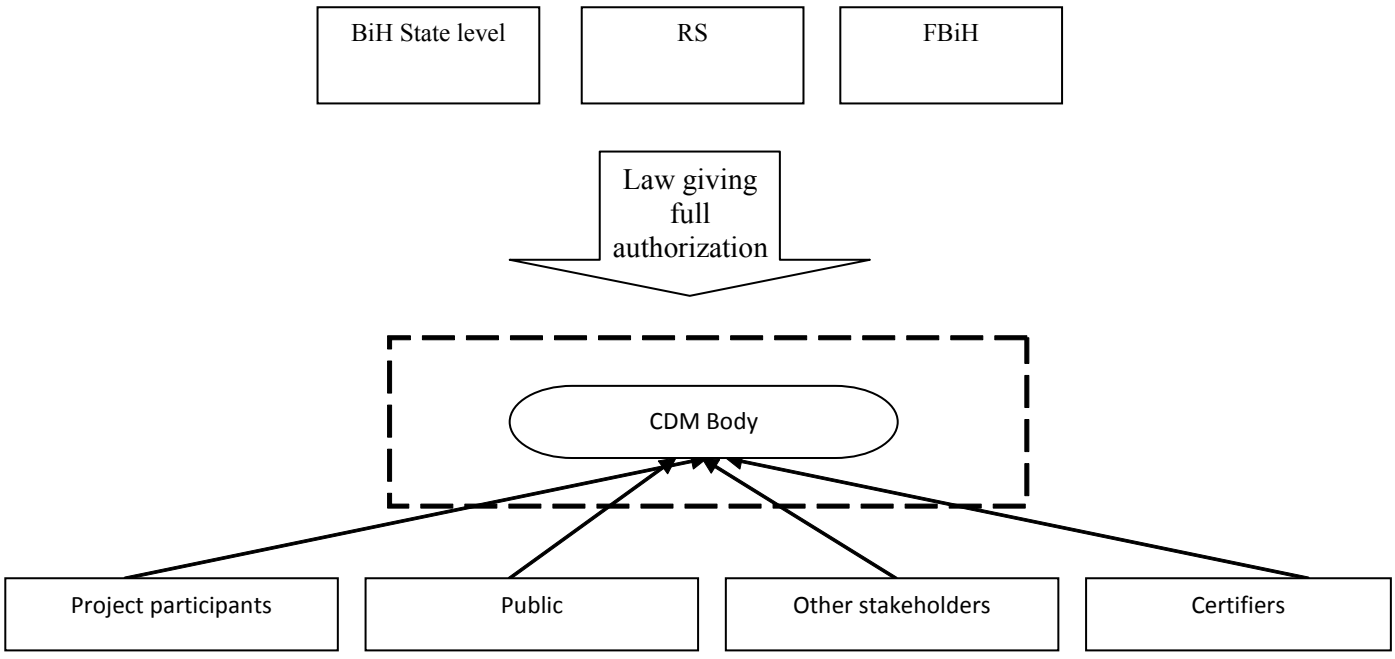
authorities operate under difficult conditions and still heavily rely on external assistance financed under the CARDS project (SIGMA, 2007). All these issues could have impacts on the transparency and timeline of procurement process.

Furthermore, while the Law prescribes obligatory preferential domestic treatment, it still does not eliminate international players from this tender procedure. With significantly lower prices and strong expertise and experience in the CDM project some international companies might be able to win the tender.

Another potential problem with this option is sustainability of financing for DNA operation. Under this modality the DNA would have to be financed from CDM fees, which would impose additional financial burden for project proponents or host sectors. An independent DNA might not be able to stay financially independent once funding from donors or CDM fees dries out. Moreover, an important issue is whether the DNA would be resistant to government changes and situations in which the government becomes reluctant to delegating the full authority and independence to such an entity.

While the benefits of this option in the short run might seem appealing, there are many drawbacks in the long run in addition to the financial insecurity and uncertainty related to the government turnover. One is related to the desired involvement of other government institutions and public stakeholders. Another, even more dangerous one is that if the DNA function is outsourced outside the government there will hardly be any improvement in government capacities and even in the whole country if, for example, an international entity gets to act as the DNA.

Figure 4:
Overview of independent DNA model/new institution model



3.2.4. DNA as a new Government entity

Under this option, establishment of the DNA as a new environment institution or agency in BiH would require a legal base. At this moment no such legal base exists in BiH. The establishment of the DNA could be institutionalized through a new state level Law on Environment or Law on

DNA. Article 47 of the Law on Administration of BiH stipulates "administrative bodies shall be established by a law which will be adopted by the BiH Parliament on the proposal of the Council of Ministers". Given that the BiH Constitution does not explicitly cover the environment, a direct Constitutional base for the adoption of new laws does not exist. The entity constitutions neither contain provisions that allow delegation of entity responsibilities to the State level nor provisions that forbid them. In some areas entity competencies are already delegated to the state level by the entity governments' decision but this is not the case for the environment sector. In addition, both entities have already adopted their environmental laws and agreed on establishing the inter-entity body with a responsibility to deal with environmental issues delegated by the entity governments, which indicates that there is no readiness to further delegate competencies to the state level. (EC Delegation to BiH, 2005).

The Council of Ministers of BiH already adopted a decision in 2002 instructing the Ministry of Foreign Trade and Economic Relations to draft an Environmental Law for the State level. This law has been drafted and should be adopted by the State Parliament and some of its provisions relate to establishing of a new institution, namely the State Environmental Agency. Further improvements of this Law could be made before its adoption to include the DNA as well. The establishment of a new institution would also require amendments on existing Law on Ministries and Other Bodies of Administration of BiH.

A special challenge in setting up a new institution is to obtain necessary resources for its establishment and functioning. Usually the start up is the most resource intensive and for the DNA initial resources would include personnel (both technical/scientific and administrative), office facilities and equipment, funds for operating budget and office equipment, as well as funds for CDM promotional activities.

While personnel with technical expertise could be employed on a part-time basis or even "borrowed" form another institutions (NGOs, universities, research institutions or other public institutions), the DNA as a new institution would require some permanent or full-time employees, which is an additional financial burden to the state budget.

One of the key functions of a new DNA institution would be to establish and maintain an open communication with other government agencies from the sectors relevant to the CDM as well as the private sector.

Numerous reports on the governance structures and public administration in BiH agree that BiH suffers from a cumbersome governance structure. The Study on Governance Structures in BiH (2007) states that numerous levels of government institutions are served by thousands of civil servants operate highly inefficiently and in isolation from each other. Furthermore, existing BiH environmental institutions suffer from limited administrative capacities and limited financial resources, which results in weak capacities to effectively provide and monitor environmental protection (EC Delegation to BiH, 2005). Also, there is an ongoing pressure to reduce the size and number of government institutions.

For the same or similar reasons this option has not been used in any Eastern European country (UNDP, 2006).

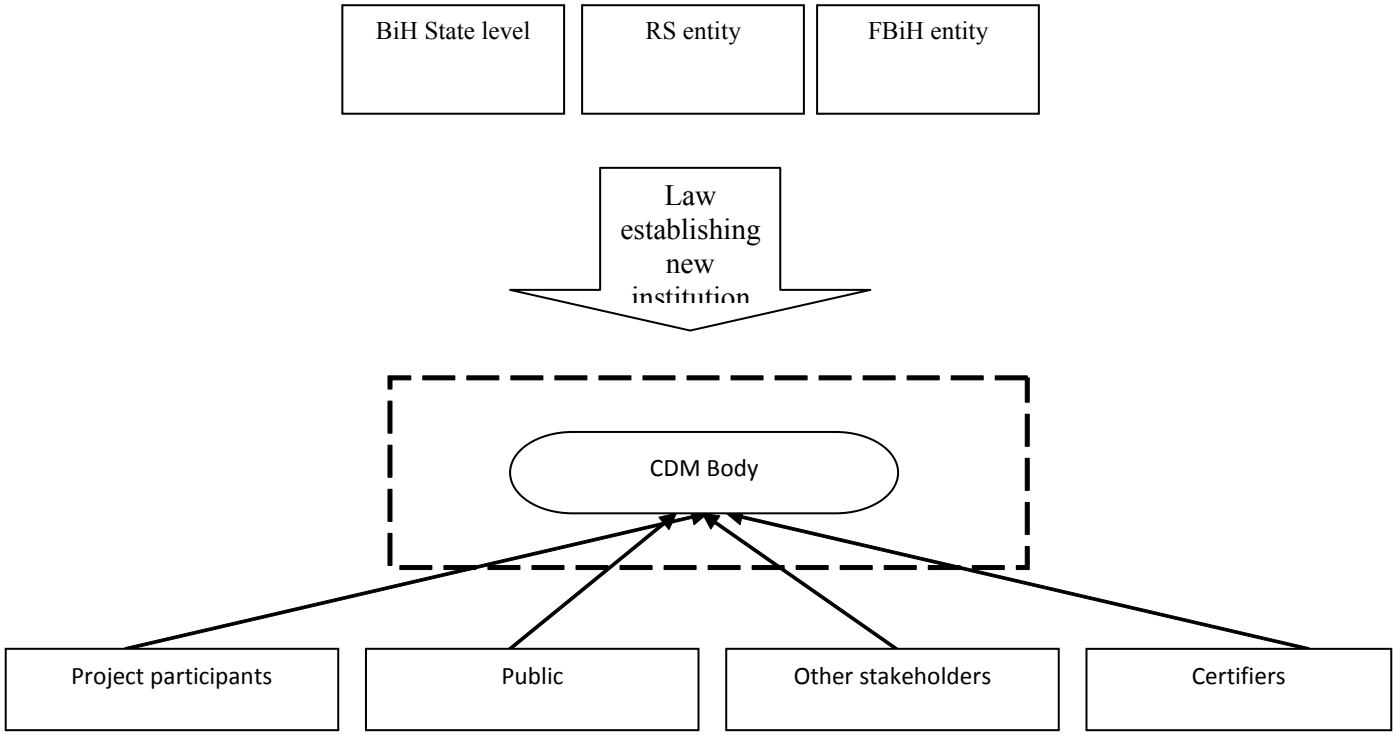


Figure 5:
Overview of new institution model DNA

4. Conclusion and Recommendations

The carbon market is currently characterized by high competition among CDM host countries and since BiH will be joining the market in the second-phase it is important that its entry is well publicized. Compared to many other countries that ratified the Kyoto Protocol as non-Annex I countries, BiH favorable geographic position and good recourses (trained and skilled work-force, well functioning institutional structures) provide BiH with a comparative advantage to other CDM host countries. However, as a second phase market entrant, BiH needs to quickly catch up with first phase market entrants such as Brazil, India, China and facilitate project development ensuring efficiency and transparency of the project evaluation process.

DNA organizational structures adopted by other host countries and analyzed within this paper include:

- DNA as a Single Ministry Model – generally used when there is a strong institution or ministry that has a clear mandate in these issues and when there is no overlapping mandates with other institutions
- DNA as a Multi-tiered Inter-ministerial Committee Model – the most widely used solution as it reduces resource requirements and ensures cross-sectoral coordination
- Independent DNA outside the Government – generally adopted as a temporary or transitional solution when there is a weak political commitment
- DNA as a new Government entity – applied when there is a very strong commitment by the government in CDM participation

The table below presents the organizational structure adopted by selected host countries for the participation in the Kyoto Protocol Flexible Mechanisms.

Figure 6:
Organizational structure for JI and CDM projects in countries (based on UNFCCC data):

Model adopted	Country
Single ministry model	Albania (Ministry of Environment) Bulgaria (Ministry of Environment) Cambodia (Ministry of Environment) Georgia (Ministry of Environment) Lithuania (Ministry of Environment) Macedonia (Ministry of Environment) Moldova (Ministry of Environment) Philippines (Ministry of Environment) Romania (Ministry of Environment) Slovenia (Ministry of Environment) Ukraine (Ministry of Environment) Uzbekistan (Ministry of Economy) Vietnam (Ministry of Environment)
Multi-tiered Inter-ministerial Committee	Bangladesh (chair: Department of Environment) Brazil (chair: Ministry of Science and Technology) India (chair: Ministry of the Environment) Indonesia (chair: Ministry of Environment) Peru (chair: Ministry of Environment) Serbia (chair: Ministry of Environmental Protection, about to be finalized) Thailand (chair: Ministry of the Environment)
Independent DNA outside the Government	China Egypt Netherlands
New government Entity	Philippines

The following table is a summary of four DNA models discussed in the Policy Options chapter:

Figure 7:
Summary of DNA models

Policy options	Political environment	Legal base	Technical knowledge	Stakeholder participation	Resource requirements
1. Single ministry model	- concentrated decision making power might raise problems - complex PA setup	- state level ministry's mandate is limited - overlapping institutional mandates for env't protection	- would have to rely on other institutions, NGOs, universities, industries	- reduced coordination requirements	- low administrative costs and easy implementation
2. Multi-tiered inter-ministerial committee model	- favorable political environment	- easy to implement	- easy to bring in technical knowledge and experience from different sectors	-wide participation enabled - larger coordination requirements	- higher set up costs
3. Independent DNA outside the Government	- needs full authorization from the Gov't - low resistance to gov't changes	- complex and lengthy procurement procedures	- would have to rely on other institutions, NGOs, universities, industries	- significant coordination requirements	- financial insecurity - imposes additional financial burden for investors
4. DNA as a new Government entity	- resistance from entities to delegate competencies to the state -limited admin. capacities	- non existing - requires amendments of many laws	-would require permanent technical staff	- significant coordination requirements	-significant resources needed

Looking into strengths and weaknesses of the different DNA models, the recommendation is to set up the DNA as a Multi-tiered Inter-Ministerial Committee model. This model is preferred to the other structures as it requires no significant legal procedures for establishment, and compared to other models ensures full cross-sectoral coordination without biases and competition with other institutions.

Even though this model has weaknesses such as delayed decision-making, the above listed benefits overshadow them and weaknesses might be easily overcome by setting clear timelines and deadlines in project approval procedures.

Also relevant to the decision on how the DNA should be established is the current allocation of responsibilities for UNFCCC matters. In line with this, the RS Ministry of Urban Planning, Civil Engineering and Ecology was considered the most appropriate institution to chair the DNA Board and perform secretarial duties as this Ministry is acting as BiH Climate Change Focal Point and performing the DNA secretariat role will ensure operational synergies with other climate change related activities. However, as the CDM is a mechanism designed to achieve sustainable development through foreign investment, it is clear that other ministries have an important role to play and need to be involved in decision making process. DNA as a Multi-tiered Inter-Ministerial Committee model can assure participation in decision making of all relevant state and entity level players and at the same time integrate existing infrastructure and climate change knowledge into its structure. Other countries experiences show that only efficient and supportive CDM approval system in the country can attract CDM investment and at the moment this model can be easy implemented and ensure full political support in the country. In the future, as environmental institutions in BiH evolve and develop, the DNA structure can be changed to reflect environmental administration changes.

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