

**European Bank for Reconstruction and Development**

**LEGAL TRANSITION PROGRAMME**

**Telecommunications Regulatory Development**

**COMPARATIVE ASSESSMENT of the  
TELECOMMUNICATIONS SECTOR in the  
TRANSITION COUNTRIES**

**Assessment Report Uzbekistan**

**December 2008**



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## I. BACKGROUND AND OBJECTIVES

Under the Legal Transition Programme of the European Bank for Reconstruction and Development (the “EBRD” or the “Bank”), the Bank’s Legal Transition Team (LTT) has focused part of its work on the development of detailed analytical assessments of the state of legal transition in a number of commercial and financial sectors of its countries of operation. These assessments benchmark the developments in each country against international or harmonised standards, providing a clear analysis of the existing legislative framework and identifying gaps and future legal reform needs.

The EBRD commenced a project in May 2008 to assess the communications sector in each of the Bank’s countries of operation. The communications sector in this context refers to the market for the supply of telecommunications services, principally fixed line, mobile and broadband services.

The EBRD’s 29 current countries of operation are Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic<sup>1</sup>, Estonia, FYR Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Mongolia, Montenegro, Poland, Romania, Russian Federation, Serbia (including Kosovo), Slovak Republic, Slovenia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Turkey, which has applied for EBRD country of operation status, has been included in this assessment to provide a further reference for comparison.

The purpose of this assessment is to examine whether the legal and regulatory framework for communications in the Bank’s countries of operation is sufficiently extensive to secure fundamental sector transition and reform objectives. It therefore measures the state of play in the communications sector (i.e. status, progress, level of approximation of local laws/regulations to international standards, future needs, etc).

EBRD also wishes to be in a position to assess the effectiveness of its technical cooperation efforts as well as pinpointing elements the Bank could provide new or additional technical assistance in furtherance of its mandate.

EBRD contracted consultants Cullen International SA (CI), in conjunction with Development Dynamics Limited (DDL) (the “Consultant”) to collect and analyse the required data and to prepare an assessment report (the “Assessment”).

The results from the Assessment are being published on the EBRD website (<http://www.ebrd.com/country/sector/law/telecoms/index.htm>) and, on a standalone basis, while summaries of the Assessment will appear in EBRD’s economic review, *Transition Report* (2008) and in EBRD’s legal journal, *Law in transition* (Spring 2009).

The specific objectives of the communications sector assessment are:

- Firstly, to provide a credible assessment of the communications sector in the Bank’s countries of operation in order to encourage, influence and provide guidance for ongoing and future legal reform efforts in those countries.
- Secondly, the information provided by the assessments can assist the EBRD to measure legal and regulatory risk in its countries of operations and in specific investment activities.

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<sup>1</sup> Although the Czech Republic is no longer an EBRD country of operation it has been included in the Assessment for comparison purposes.

## II. SUMMARY OF COMMUNICATIONS SECTOR IN EBRD COUNTRIES OF OPERATION

### A. Commonwealth of Independent States (CIS) and Mongolia

#### 1. Introduction to Sections on Commonwealth of Independent States and Mongolia

This section includes summaries of the status of the telecommunications sectors in the Commonwealth of Independent States and Mongolia. The full list of EBRD countries of operation in this sub-region, which is referred to as CIS+M, are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

The information used in the assessment was drawn from;

- a questionnaire sent by EBRD to the regulatory authorities and/or the ministries in the countries in May 2008;
- personal interviews with authorities and operators conducted by a study team during the second quarter of 2008. A list of people interviewed is included in Annex B;
- desk research from media and other sources interested in consumer, investor and regulatory issues.

The summaries are intended to provide an insight into the regulatory regime and to highlight factors that have influenced the regulatory assessment.

#### 2. Uzbekistan

##### a) Institutional framework

The Communications and Information Agency for Uzbekistan (the "Agency") has responsibility for policy and regulation for the telecommunications sector. The Director General of the Agency is also the Deputy Prime Minister responsible for telecommunications, who also acts as Chairman of the Board of UzbekTelecom (the state-owned dominant national operator) and as Chairman of the State Commission on Radio Frequencies.

The Government has 94% ownership of UzbekTelecom, which in turn has full ownership of 14 Regional and 5 specialist subsidiaries including a national Internet and a mobile operator. Active competition is provided by a number of fixed and Internet service providers plus 5 mobile companies.

##### b) Regulatory independence

Because the regulatory functions are carried out by the Deputy Prime Minister who also plays a significant role as Chairman of the dominant incumbent operator, it is clear that regulatory independence, as it is understood in the WTO reference paper, does not exist.

The questions of privatisation and the establishment of a truly independent regulatory operator have been on the agenda for several years. In the case of UzbekTelecom, earlier attempts at privatisation have failed.

##### c) Market access and authorisations

Uzbekistan has a regime based on individual licences with a typical duration of ten years for all types of telecommunications activities such as fixed telephony, mobile telephony, IP telephony, radio trunk transmission, data transmission, etc.

Although most types of services are open to competition, there is still an exclusive right for UzbekTelecom to provide international traffic, and international capacity is limited.

The licences that are granted are typically very specific in terms of which activities may be carried out and an operator may need several licences in order to provide a basket of services.

Several operators are investing in IP based networks and are moving toward next generation network (NGN) solutions that include IP TV and videophone in addition to telephony.

Frequency allocations are carried out by the State Commission on Radio Frequency, in some cases by competitive tendering.

d) Significant market power

There is not yet a framework in place to determine significant market power, however, the regulatory agency treats UzbekTelecom as a dominant operator and regulates its main retail tariffs and ensures that it applies interconnection fairly.

e) Competitive safeguards

Few competitive safeguards as they are understood in the WTO reference paper have been implemented. Although the Agency makes an effort to provide direction to the sector and has established the main principles and terms that shall apply to interconnection, there is no reference interconnection offer yet. However, the dominant operator publishes its main interconnection charges on its website.

Competing operators are allowed to use the dominant fixed operator's local access network to provide DSL-based broadband access (partial Local Loop Unbundling). The regulatory agency has ensured that standard terms are used including a low wholesale unbundling fee.

Furthermore, although carrier selection is used by pre-paid dial-up Internet and VoIP providers, no safeguards for carrier pre-selection or number portability have been established yet.

f) Universal service and consumer issues

UzbekTelecom has been assigned an obligation to provide telephony at reduced tariffs for residential subscribers.

All licensed operators have to pay a percentage of their revenues into a universal service fund, administered by the regulatory agency. The operation of the fund is not seen as fully transparent.

g) Outlook

Although Uzbekistan still operates vertical control of the sector from the Cabinet of Ministers, with one person (the Deputy Prime Minister) having all the key roles, there appears to be a positive disposition towards a limited competitive market using the latest technologies. Uzbekistan has always attempted to play a role in regional and international communications sector discussion (including the running of a yearly ICT forum and the hosting of ITU conferences), though with limited apparent impact on the reform of communications regulation in the country.

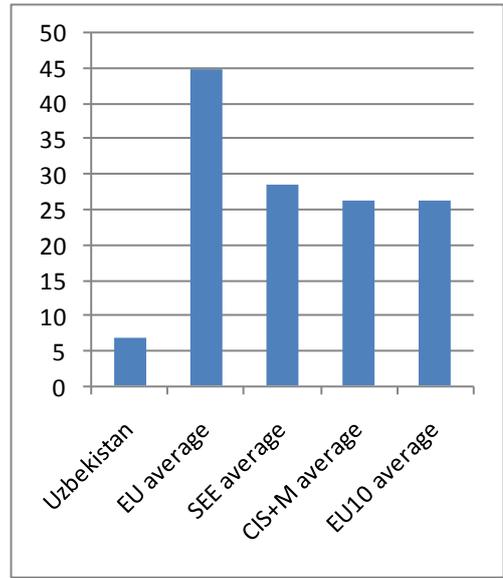
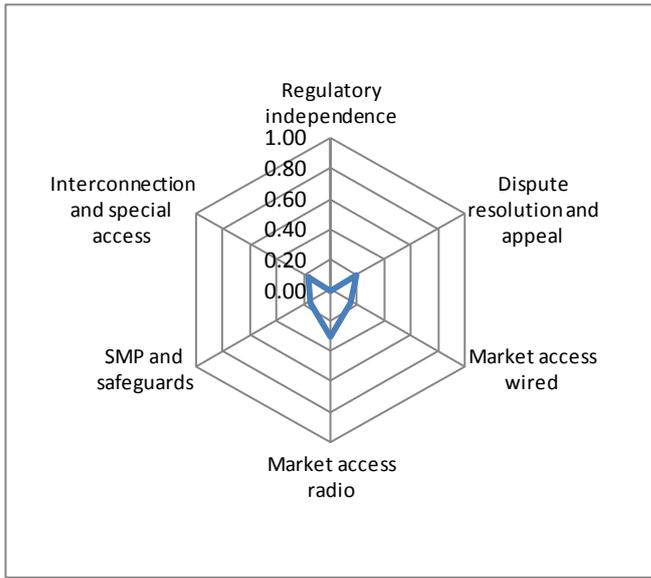
UzbekTelecom still dominates with around 90% of the fixed market. It continues to suffer many of the problems of a national incumbent, needing to catch up after many years of under-investment. Competitors are installing the latest fibre, wireless and IP based networks and offering the latest services to customers.

In the broadband market, UzbekTelecom was particularly slow to launch a reasonable market offering. Instead, it started to allow other providers to use its access network and now broadband take-up is at last growing fast.

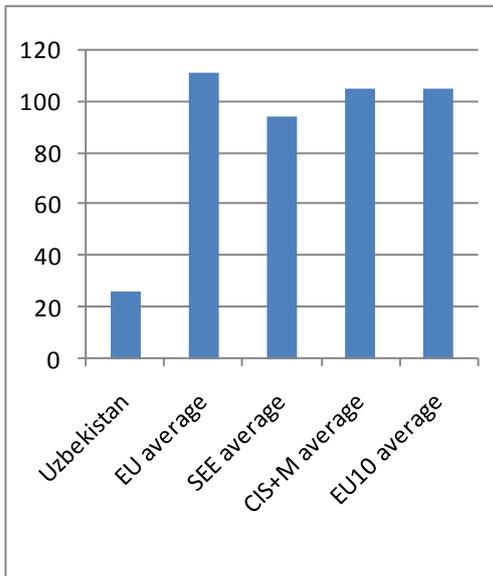
A much more modern approach to market regulation is needed. Instead of the existing strict licensing categories and market inspection approach, the regulator needs to properly examine each sub-market for competitiveness and to relax regulations with appropriate market access and regulatory safeguards. Obvious steps are the liberalisation of international traffic, tariff rebalancing of the dominant operator, plus the introduction of carrier pre-selection and number portability. Universal service policy and implementation need to focus on better infrastructure, particularly in rural areas.

h) Uzbekistan is deemed to have "Low compliance".

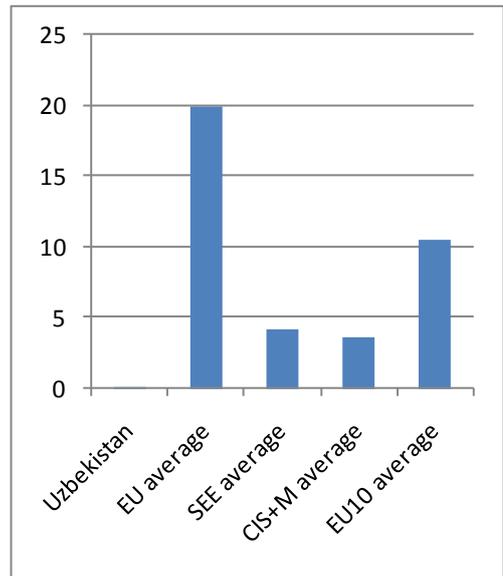
Key indicators for Uzbekistan



Regulatory spider diagram



Fixed network penetration



Mobile network penetration

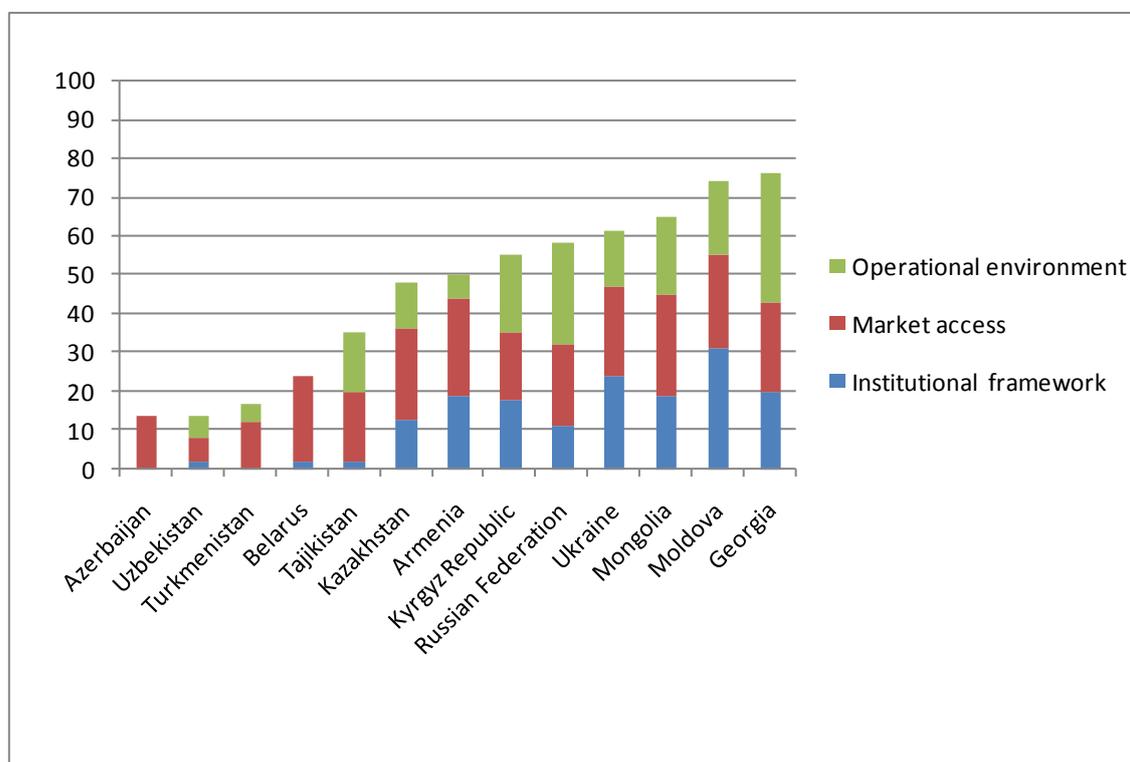
Broadband network penetration

(Penetration less than 1% is not shown on this chart)

For details of the definitions of the main terms used in these graphics, please refer to "Explanation of assessment and results" in Section II of this report.

### III. REGIONAL ASSESSMENTS

#### A. CIS countries and Mongolia (CIS+M)



Regulatory assessment CIS countries and Mongolia

For details of the definitions of the main terms used in these graphics, please refer to “Explanation of assessment and results” in Section II of this report.

#### Regulatory environment

The first objective of the assessment is to consider whether there is an independent regulatory authority. In five countries, it has been concluded that this is not the case:

- Azerbaijan. This country does not have a separate regulatory authority. Regulations are dealt with by a department within the Ministry. At the same time, the state has ownership in five operators.
- Belarus. Similarly to Azerbaijan, Belarus does not have a separate regulatory authority. Regulations are dealt with by a department within the Ministry. At the same time, the state has ownership in four operators.
- Uzbekistan. This country does have a regulatory authority that is separate from the Ministry. However, the regulator can be instructed by the Deputy Prime Minister who is also chairman of the incumbent operator.
- Tajikistan. This country has a regulatory authority, which is separate from the Ministry. However, there is nothing to prevent the Deputy Minister responsible for telecommunications, who is also chairman of the incumbent operator, to instruct the regulatory authority.

- Turkmenistan. This country has no separate regulatory authority. The state has full ownership of three operators and the same ministry is responsible for ownership and regulations.

All these countries have been given zero points for regulatory independence. This makes a significant contribution to the assessment that these countries have low compliance. This does not necessarily mean that the markets in all these countries are not functioning well. In some cases, there is reasonable investment and competition in spite of the lack of regulatory independence. This could be through enlightened “management of competition”, but it is not regulatory independence as understood in the WTO reference paper.

### **Market access**

The first component of market access looks at authorisation requirements for activities that do not require scarce resources. The ideal solution is that all such activities may be performed based on general authorisations without prior approval from the authorities. Moldova is the only country in the region that has decided to establish this regime.

The other alternative, which is fully acceptable for the purposes of this assessment, is that all types of telecommunications activities can be performed based on a licence granted through an administrative procedure with low licence fees. Many countries come close to meeting these conditions including Armenia, Kazakhstan, Mongolia, Russia, and Tajikistan.

However, in other countries there are still special or exclusive rights. Azerbaijan, Belarus, and Uzbekistan have restrictions on international traffic; Turkmenistan has a de facto monopoly for international traffic.

Other countries, such as Kyrgyz Republic, grant licences after political considerations.

The second component of market access looks at the procedures for granting access to scarce resources with a focus on radio frequency spectrum. Most countries have legislation that requires fair and non-discriminatory procedures. However, such conditions are not evident in Azerbaijan, Russia, Ukraine, Uzbekistan, Tajikistan, and Turkmenistan.

The practice of publishing the radio frequency plan on a website is now normal practice. However, it is still not the case in Uzbekistan, Tajikistan, and Turkmenistan.

### **Operational conditions**

A first set of indicators looks at the regime for control of significant market power. It considers whether there is such a regime and whether analyses have been made and SMP operators have been designated.

Azerbaijan, Belarus, Uzbekistan, and Turkmenistan have not yet established SMP regimes. In addition, Ukraine and Tajikistan lack a fully developed regime and they have not yet made any SMP designations.

Armenia has established an SMP framework, but has not yet completed any market analysis. Kazakhstan has started to carry out market analyses, but these have not yet been used to make any SMP designation.

The introduction of competitive safeguards such as carrier selection and pre-selection and number portability is missing for most countries. It has not yet reached the status of an established plan in Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyz Republic, Moldova, and Turkmenistan.

Most countries have established some kind of a reference interconnection offer as a basis for interconnection agreements. Only Azerbaijan and Belarus have not yet done so.

Even where such RIOs are reported as having been established, they appear not always to be used by the operators in the market. Only Georgia, Kyrgyz Republic, Moldova, Mongolia, Russia, Ukraine, and Tajikistan report that they are in general use.

Local loop unbundling is the exception rather than the rule. Georgia has made most progress and can report that an unbundling regime is operational. It is being introduced in Moldova, Kyrgyz Republic, Uzbekistan, and Tajikistan.

### **Universal service**

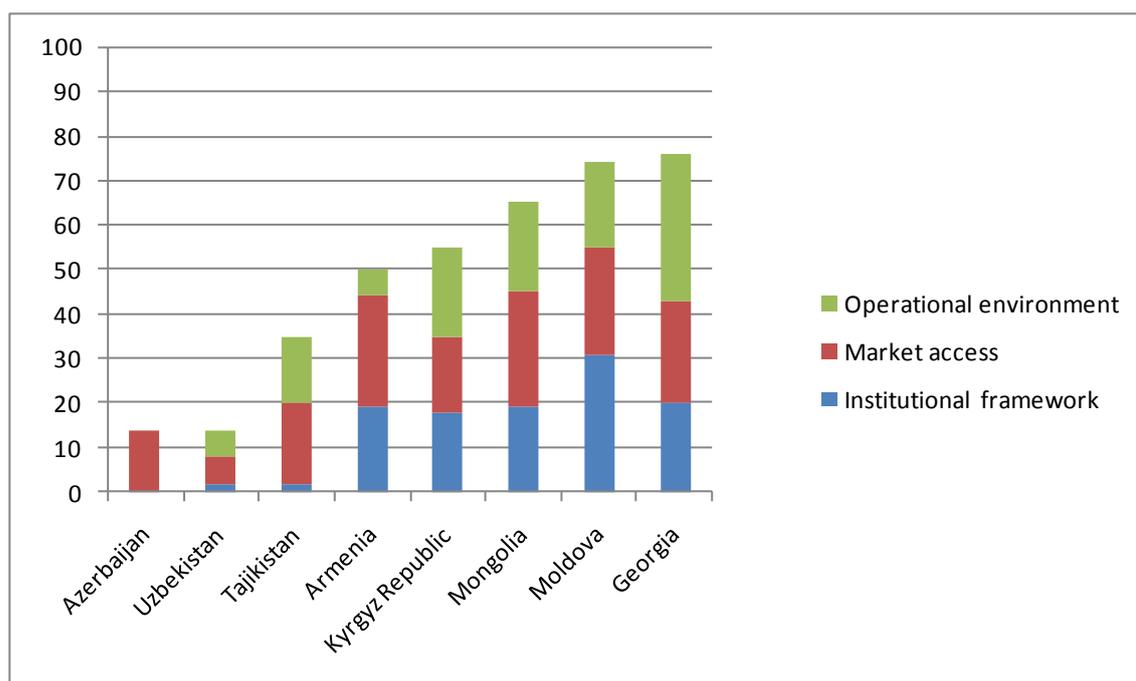
Most countries do not have explicit universal service obligations or obligations that involve new entrants in the market. There are two exceptions:

- Belarus has a tender procedure for designation of universal service providers, but the conditions do not respect technological neutrality and the contributions by other operators is as high as 1.5% of revenue.
- Russia does not have specific technological requirements, but USO operators must have a licence for local telephony. In practice, this seems to bar mobile operators from being USO providers. The contribution is rather high at 1.2% of revenue.

### **Conclusions on regulatory compliance for CIS+M sub-region**

These assessments lead to the overall conclusions that:

- High compliance is found in Georgia;
- Medium compliance is found in Armenia, Kyrgyz Republic, Moldova, Mongolia, Russia, and Ukraine.
- Low compliance is found in Azerbaijan, Belarus, Kazakhstan, Uzbekistan, Tajikistan, and Turkmenistan.

Early transition countries

Regulatory assessment Early Transition Countries

For details of the definitions of the main terms used in these graphics, please refer to “*Explanation of assessment and results*” in Section II of this report.

The EBRD explains<sup>2</sup> the role of the Early Transition Countries as follows:

*In November 2004, the EBRD Board of Directors approved the creation of a new multi donor fund for the support of economic development in the poorest countries, the EBRD ETC Initiative. In the Early Transition Countries (ETCs) include Armenia, Azerbaijan, Georgia, Kyrgyz Republic, Moldova, Tajikistan and Uzbekistan. The challenges posed in the ETC are considerable, and EBRD has launched this initiative to deliver a stronger transition impact in these countries.*

## B. Performance against Sector Benchmarks

Information on the penetration of fixed networks, mobile services, and broadband services was collected from the EBRD countries of operation during the assessment. In most cases, this information is collected routinely by government ministries or sector regulators. In other cases, independent sources were used. In the case of the EU, fixed line penetration is no longer reported in the Implementation Report<sup>3</sup>, and we have relied on the ITU database for comparable figures. In some other countries, where figures in comparable form were not available centrally from government or regulatory sources, we have relied upon independent estimates from press releases or interviews with the main market operators.

In the graphical presentations that follow, fixed network penetration, mobile penetration and broadband penetration levels are compared within each of the three sub-regions (EBRD countries of operation in the EU, SEE countries, CIS countries plus Mongolia) and within the ETC countries, in addition to the EU with its 27 Member States. All penetration figures are expressed in terms of numbers of lines in service per 100 population.

<sup>2</sup> EBRD's website: <http://www.ebrd.com/apply/tambas/donors/etc.htm>

<sup>3</sup> “Progress Report On The Single European Electronic Communications Market 2007 (13th Report) {COM(2008) 153}”.

To allow comparisons within each sub-region, and between sub-regions, the average penetration for each sub-region is shown on each graph. In some graphs, the range of highest and lowest is also shown for particular sub-regions.

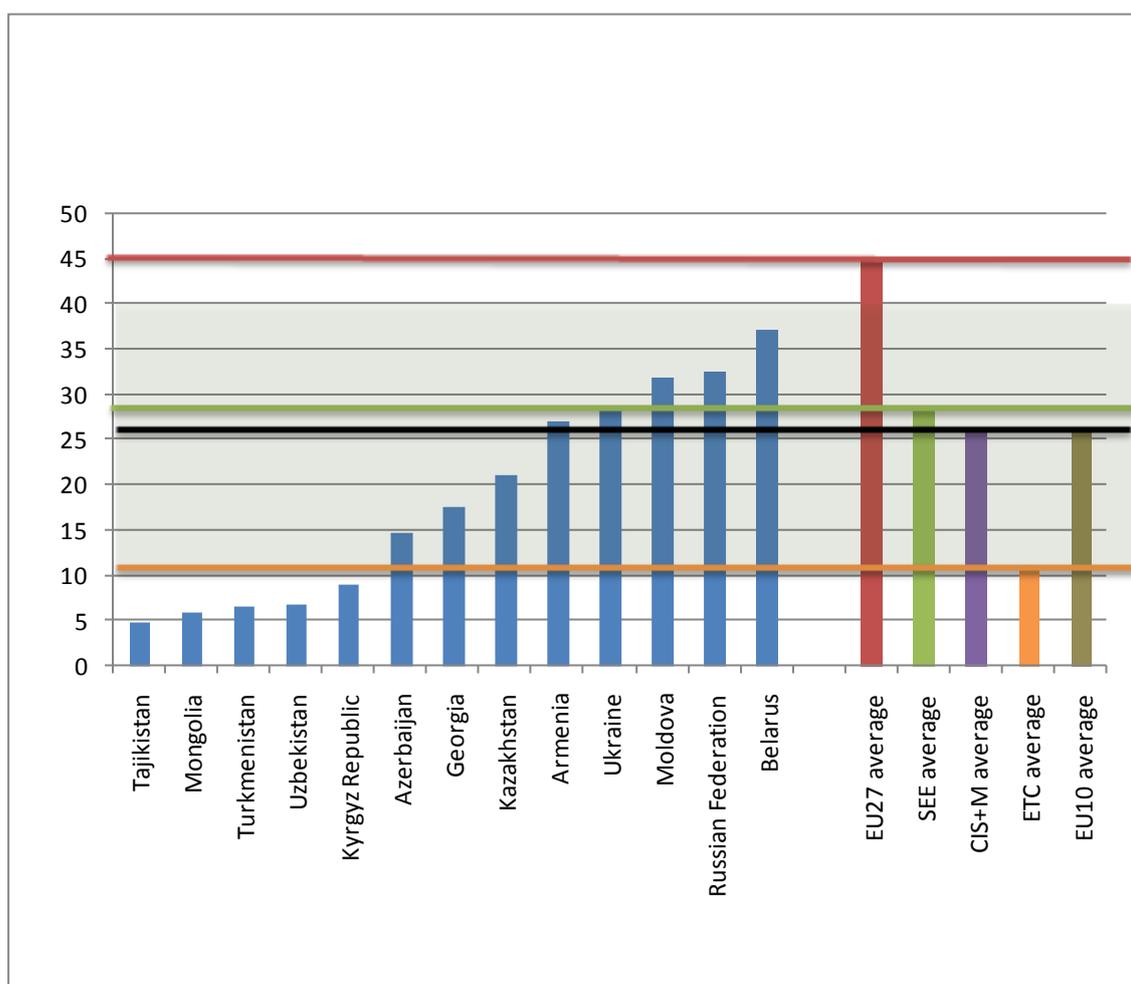
For broadband, if the penetration has been estimated at less than 1 per 100 population (<1%), no figure is shown on the graphs.

For CIS+M and SEE countries, the information was collected in May and June 2008 and is quoted as the latest available (normally end March 2008). Where a date is known to be significantly different from March 2008, this is shown as a special note. For EU countries, the data relates to mid 2007.

Some Information was requested during the assessment on fixed operator interconnection charges for wholesale call termination rates (the actual figures requested were from the incumbent fixed operator for local, single transit and double transit per minute call termination charges). The figures shown in our benchmarking results are from countries where the results could be reasonably compared with equivalent EU27 average results, as reported in the 13<sup>th</sup> Implementation Report. For this reason, only selected countries are shown. The figures expressed on the graphs are comparative to the EU results, using a simple average of the highest and lowest call termination charges for a country, compared to the equivalent average of the EU27 average country result. This is therefore an approximate measure of comparative interconnection charges, giving only a broad indication of the level of interconnection charges that are faced by operators in other regions, in comparison to the EU.

## 1. Fixed Network Penetration

Average fixed network penetration in CIS+M is around the same as the SEE region and the EBRD countries in the EU. All three sub-regional averages are significantly behind the average for the whole of the EU. Average fixed penetration in ETC countries is significantly behind all averages.



Fixed network penetration CIS countries and Mongolia

Note: The shaded area in pale olive represents the span between the highest and the lowest penetration figures in the SEE countries.

For details of the definitions of the main terms used in these graphics, please refer to *"Explanation of assessment and results"* in Section II of this report.

The EU countries achieved their relatively high levels of fixed network penetration before the introduction of mobile networks and during their monopoly period (up to 1998), in most cases largely under state control. The average fixed network penetration in EU27 countries is 45 per 100 population. For the EBRD countries of operation that are within the EU, fixed network penetration ranges from 20 to 43 per 100 population.

CIS+M and SEE countries generally failed to achieve average EU levels of fixed network penetration. Only Belarus, Croatia and Serbia, have achieved between 30-40 fixed lines per 100 population. The remaining countries, which reached only between 10-30 fixed lines per 100 population, have achieved far greater universality with mobile networks under competitive conditions than was ever achieved with fixed lines under monopolies.

Universal service policy in EU countries now includes issues such as whether the lack of availability or non-use by a minority of consumers results in social exclusion. This means that, with universality largely achieved, the focus of the market shifts towards consumer issues such as better payment options, and better services for disadvantaged customers (for example disabled users and low income groups).

Where low penetration countries have now started to implement effective universal service policies, such as Mongolia and Russia, the focus has been not only on increasing the penetration of basic services, but also on providing Internet services.

The countries which fall below their sub-regional averages on fixed network penetration are as follows:

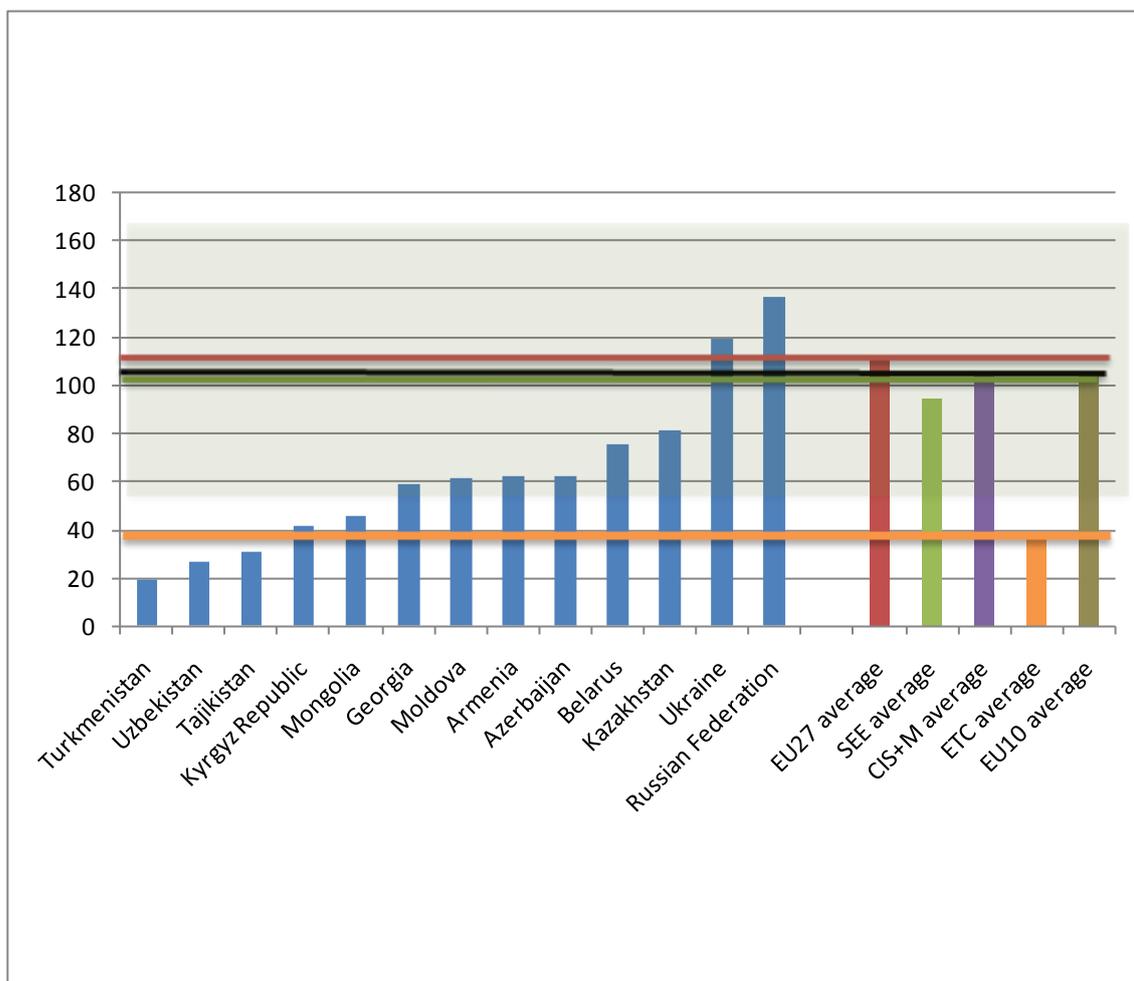
<b>Sub-region</b>	<b>Countries above their sub-regional averages</b>	<b>Countries below their sub-regional averages</b>
<b>EBRD countries in EU</b>	Bulgaria, Estonia, Hungary, Slovenia, Latvia, Poland, Czech Republic	Lithuania, Romania, Slovak Republic
<b>South Eastern Europe</b>	Serbia, Croatia	Montenegro, Bosnia & Herzegovina, Macedonia, Albania, Kosovo
<b>CIS plus Mongolia</b>	Belarus, Russia, Ukraine, Armenia, Moldova	Kazakhstan, Georgia, Azerbaijan, Kyrgyz Republic, Uzbekistan, Turkmenistan, Mongolia, Tajikistan

Fixed Network Penetration: Countries above and below their sub-regional averages

## 2. Mobile service penetration

The rapid penetration of mobile services has been dramatic and is now exceeding fixed line penetration in all countries. The highest performers have been Lithuania, Latvia, Estonia, Bulgaria, Czech Republic, Hungary, Slovak Republic, Montenegro, Russia, Ukraine, Croatia and Serbia, which have all achieved penetration rates over 100%. The significantly higher rate (168%) for Montenegro is reported to be a result of the high number of tourists (relative to the county's population) that take out a temporary mobile subscription.

The lowest penetration countries for mobile are Mongolia, Kyrgyz Republic, Tajikistan, Uzbekistan and Turkmenistan, each at still under 50%. These are the same countries in the CIS+M region that have the lowest fixed penetration. In SEE, the countries with the lowest mobile penetration include Kosovo and Albania, which also have the lowest fixed network penetration in SEE.



Mobile penetration in CIS countries plus Mongolia

Note: The shaded area in pale olive represents the span between the highest and the lowest penetration figures in the SEE countries.

For details of the definitions of the main terms used in these graphics, please refer to "Explanation of assessment and results" in Section II of this report.

The countries which fall below their sub-regional averages on mobile penetration are as follows:

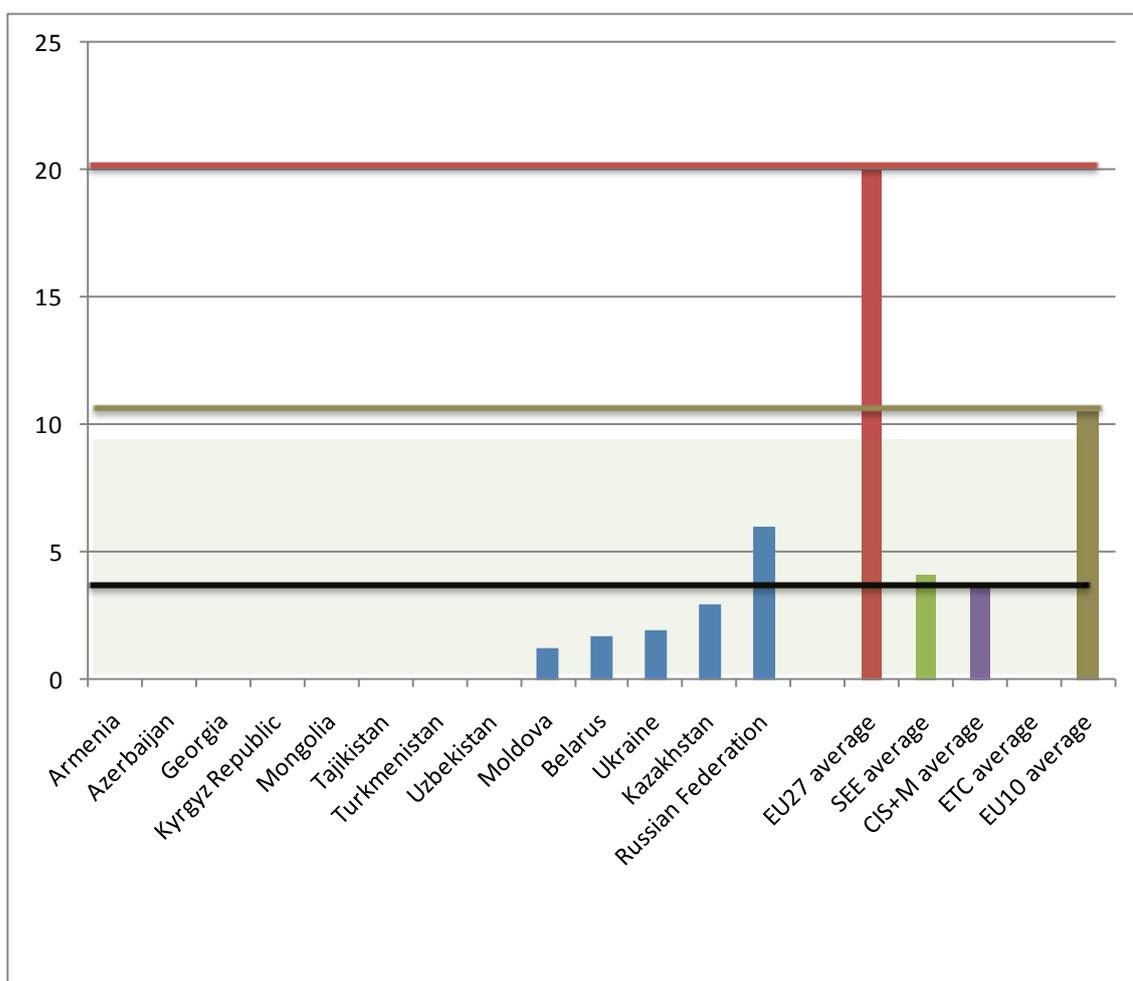
Sub-region	Countries above their sub-regional averages	Countries below their sub-regional averages
<b>EBRD countries in EU</b>	Latvia, Lithuania, Estonia, Bulgaria, Czech Republic	Hungary, Poland, Romania, Slovak Republic, Slovenia
<b>South Eastern Europe</b>	Montenegro, Serbia, Croatia, FYR Macedonia	Albania, Bosnia & Herzegovina, Kosovo
<b>CIS plus Mongolia</b>	Ukraine, Russia	Kazakhstan, Belarus, Azerbaijan, Armenia, Georgia, Moldova, Azerbaijan, Mongolia, Kyrgyz Republic, Tajikistan, Uzbekistan, Turkmenistan

Mobile Service Penetration: Countries above and below their sub-regional averages

### 3. Broadband penetration

In the EU countries, where fixed penetration is highest and the competitive safeguard of Local Loop Unbundling is obligatory on SMP operators, broadband has soared. In CIS+M and SEE, the countries that have the lowest fixed line penetration started with a major disadvantage here, with Kosovo, Montenegro, Bosnia Herzegovina, Albania, and the whole of the CIS+M region (except Russia) have less than a 5% penetration of Broadband. Russia has achieved only 6%, despite strong investment generally in the sector.

Some countries with less than 1% penetration of broadband, like Kyrgyz Republic, Tajikistan, and Uzbekistan have started to implement the main competitive safeguard of Local Loop Unbundling to help satisfy the high demand for broadband services generally. Kazakhstan has seen significant growth of the incumbent's broadband subscriber base during 2008, but without the competitive safeguard of Local Loop Unbundling, most customers do not have a competitive choice of broadband provider.



Broadband penetration in CIS countries plus Mongolia

Note: The graph does not show penetration figures under 1%. The shaded area in pale olive represents the span between the highest and the lowest penetration figures in the SEE countries. Kazakhstan figure is end June 2008.

For details of the definitions of the main terms used in these graphics, please refer to "Explanation of assessment and results" in Section II of this report.

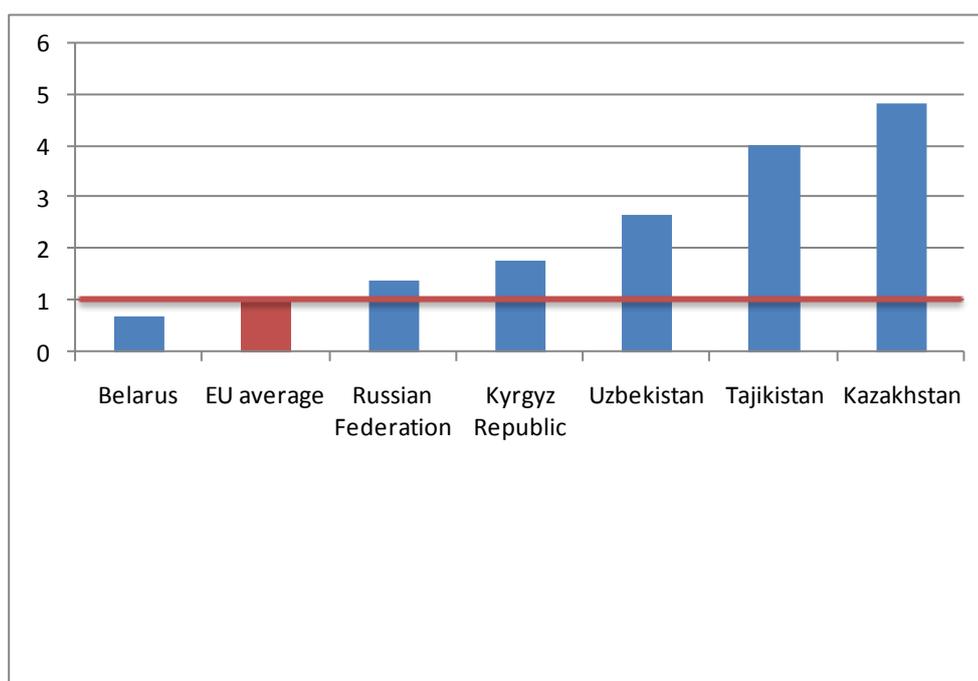
#### 4. Interconnection Charges

One of the largest operating costs that a competitor faces when entering the telecommunications market is the wholesale interconnection charge that the incumbent fixed network operators make for terminating calls to their customers.

Wholesale interconnection arrangements are normally agreed between operators, but these arrangements become a main target for regulators when it is suspected that the incumbents are using their dominant position to restrict supply of interconnection capacity, or to charging higher than fair prices. Without regulatory intervention, incumbent operators with significant market power could use interconnection capacity restrictions and high charges to restrict competitors' growth and to apply "margin squeeze".

Regulators in the EU have successfully reduced interconnection charges, and made sure that the arrangements for interconnection are fairly applied by incumbents in an open, non-discriminatory manner. EU levels of fixed call termination charges have become the industry benchmark because regulatory action has managed to reduce these towards best practice long-run average incremental costs. This means that new entrants to the market only face modern technology-based incremental costs, and not the higher costs reflecting the historic inefficiencies of the incumbent.

Regulators in CIS+M and SEE have been less successful in applying this important competitive safeguard, as the graphs below illustrate.



Relative fixed network termination charge: (selected CIS countries)

For details of the definitions of the main terms used in these graphics, please refer to "Explanation of assessment and results" in Section II of this report.

The assessment results show that generally, in countries where fixed networks call termination charges are relatively high, competition develops slower than in other countries.

Incumbent fixed network operators should not pass on their higher operating costs to competitors in the form of monopolistic call termination charges. Competitors cannot avoid paying interconnection charges, because they have to use the incumbent's network to terminate calls to the incumbent's customers.

This is therefore one instrument where CIS+M and SEE sector regulators could make rapid improvements in market conditions for competitors<sup>4</sup>. The EU experience has now given us reliable empirical data on interconnection charges from a many countries, which can be used confidently in other countries as proxies for best practice long-run incremental costs.

#### IV. SUMMARY OF RECOMMENDATIONS

The general conclusion of the assessment is that for countries with only low or medium compliance, the most important steps to be taken are to achieve independent sector regulation and to put in place best practice competitive safeguards (especially SMP and interconnection). Other factors such as universal service, market access (including licensing/authorisation) and dispute resolution/appeals mechanisms are important steps, but they appear secondary when considering overall regulatory performance.

The key elements of the required reforms in medium and low compliance countries are;

- Regulatory Independence:

First and foremost, the country's legal framework must include the objective to establish a regulatory authority that is independent from the operators and reasonably independent from political pressure. In practice, such a legal environment may be in place, and yet the regulator does not necessarily behave in an independent and fair way. Real independence and fairness are difficult to measure in an objective way. However, the regulator has to demonstrate that it makes decisions that are fair, transparent, and non-discriminatory after taking into account the market conditions and by consulting widely.

- Competitive Safeguards:

Competitive safeguards are those measures that are intended to protect new entrants against the anti-competitive practices of incumbent operator(s) with significant market power. Firstly there have to be formal and objective procedures to identify the existence of significant market power. This procedure should ideally be based on formal market definition and analysis according to competition law principles. Once it has been established that the designation procedure is in place, the next requirement is whether the procedure has been carried out whether the SMP operators been set proportionately and effective obligations such as the need to observe non-discrimination and transparency.

In addition, specific implementation (in legal provisions and in practice) of number portability, carrier selection and carrier pre-selection are required.

A proven safeguard is the use of a reference interconnection offer (RIO) that is approved by the regulator and published. This RIO should also apply to competitive activities of the incumbent operator. Similarly, the existence of a reference unbundling offer (RUO) and its actual use in providing services by alternative operators.

The countries most in need of reform for making the regulator more independent are Russia, Kazakhstan, Tajikistan, Belarus, Turkmenistan, Uzbekistan, and Azerbaijan.

These same countries, plus Ukraine, Kosovo, Armenia, and Serbia would benefit most from the introduction of more effective competitive safeguards.

Therefore, the main recommendations resulting from this assessment are;

1. Continue the fast pace of regulatory reform in South Eastern Europe, and apply special attention to Serbia and Kosovo, where the reforms have been slowest.

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<sup>4</sup> In September 2008, the telecommunications regulator in Albania enforced a reduction in call termination charges to align with the EU average

2. Significantly increase the pace of regulatory reform in the low performing CIS+M countries, particularly Kazakhstan, Tajikistan, Belarus, Turkmenistan, Uzbekistan, and Azerbaijan. The main focus of the needed reforms is regulatory independence and implementing competitive safeguards.
3. Continue reform efforts already well underway in all medium performing countries (particularly Montenegro, Mongolia, Ukraine, Kyrgyz Republic, Armenia and Moldova).
4. In countries where the dominant fixed network incumbent still charges high call termination charges (and other high wholesale fees to competitors), immediate benefits could be realised by regulatory action. Regulatory powers should be applied to enforce best practice long-run average incremental costs to be used by incumbents, and refer to EU empirical data as reliable benchmarks.
5. CIS+M countries still employing soviet-style “universal service” legacy policies should abandon these. For example:
  - Unbalanced tariff structures (where line rentals and/or local calls are priced well below cost and are cross-subsidised by excess profits made on international and national calls) should be phased out as quickly as possible.
  - The continued use state funds to subsidise loss-making services for basic fixed line rentals should be phased out in parallel with tariff rebalancing.
  - Legacy policies related to the use of state subsidies should be replaced in favour of more modern technologically and competitively neutral policies, as demonstrated effectively in Mongolia.
6. In order to monitor the progress of reform, and to direct the focus of technical assistance efforts, the assessment needs to be on a regular basis of at least once per year. The assessment of the EU countries is already effective with widespread and up to date commentaries are easily available. For SEE countries, where regulatory reform has been most rapid, assessment is already improving as investors focus more on this region. The CIS+M countries need a more regular flow of information in order to perform regulatory assessments equal to the detailed understanding of the workings of the EU telecommunications framework.
7. For this reason, it is recommended that a formalised country tracking system is developed which can feed into regular assessments of telecommunications markets in the 12 CIS states plus Mongolia.

## V. DATA COLLECTION AND ASSESSMENT METHODOLOGY

### A. Information sources

The Consultant has drawn upon a variety of sector data and information, both inside and outside each country. Some background information was readily available and easily accessible for desk research. These sources included the European Commission; the International telecommunications Union; EBRD; World Bank; together with the websites of national regulatory authorities, national governments and their constituent ministries, official national data sources, local technical and general news and industry websites, professional data sources, international organisations and institutions, etc.

For the EBRD countries of operation that are in the European (EU), i.e. Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia, plus the Czech Republic, we have relied upon the “Progress Report on the Single European Electronic Communications Market 2007 (13th Report) {COM(2008) 153}”.

The primary source of data for the assessment of the remaining countries was the country sector authorities (i.e. national regulatory authorities, sector related agencies and sector ministries).

For the countries of South Eastern Europe (SEE), i.e. Albania, Bosnia and Herzegovina,, Croatia, FYR Macedonia, Montenegro and Serbia, (with Kosovo assessed separately), the required data was collected alongside the parallel project: "Supply of Services in Monitoring Regulatory and Market Developments for Electronic Communications and Information Society Services in Enlargement Countries": This is a European Commission project that was awarded to Cullen International in 2007. The first monitoring report was published on the Commission's website<sup>5</sup> in October 2008.

To achieve a consistent basis for the collection of data in the remaining EBRD countries of operation (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan), a specially designed questionnaire was used. The full Questionnaire is included in Annex A.

The Consultant received a varying degree of co-operation from these authorities. Some countries have been fully co-operative, while authorities in other countries have been less responsive.

Where possible, particularly where the response of the sector authorities was insufficient or absent, appropriate alternative sources of data were referred to, including;

- Business information of interest to existing and prospective operators/investors such as licensing procedures, technical requirements, interconnection agreements, online forms for certification, authorisation etc. Here information, which explains and describes the procedures and requirements was looked for, rather than the mere formal documentation and legislation itself.
- Consumer and citizen Information: Information of interest to investors, prospective investors, end-users or prospective end-users about consumer information, universal service, consumer rights (and reporting abuses) and tariffs. In addition to actual legislation and formal guidelines, digested information was looked for, such as clear explanations (e.g. complaint procedure), and frequently asked questions (FAQs) on Ministry and regulatory websites, which will be important to the consumers.
- Telecom regulatory news and other news or journalistic based sources: This element covered information, regulatory news and developments published or available from researchers and journalists.

A full list of the people contacted in each country is given in Annex B.

Note: The information collected from the EU Member States and the South East European countries is a result of monitoring procedures and methods that have been developed over many years. The information collected from Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan (collectively referred to in this report as "CIS+M"<sup>6</sup>) represents a first effort to collect regulatory information with a certain level of detail. The availability of information from these countries can suffer not only from a varying degree of co-operation from the authorities, but also from what is often a lower level of transparency in general when it comes to many aspects of regulations. Accordingly, the same level of accuracy should not be expected for the information presented from these countries.

The above information was collected during May and June 2008 after which an assessment methodology developed for the purposes of the Assessment was applied. This regulatory assessment model is intended as a guide to place national regulatory arrangements for the telecommunications sector into one of four broad categories: *Full compliance*, *High compliance*, *Medium compliance* and *Low compliance*

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<sup>5</sup> [http://ec.europa.eu/information\\_society/activities/internationalrel/dialogue\\_coop/enlargement/index\\_en.htm](http://ec.europa.eu/information_society/activities/internationalrel/dialogue_coop/enlargement/index_en.htm)

<sup>6</sup> At the date of the assessment the Republic of Georgia was part of the Confederation of Independent States (CIS). The CIS Council of Ministers approved Georgia's application to withdraw from the organisation on 9<sup>th</sup> October 2008.

Compliance in this context should be understood as compliance with the World Trade Organisation (WTO) Reference Paper on Telecommunications Services, which is explained below. It specifically does not mean full compliance with EU regulatory framework(s). Such compliance would require much more detailed assessment than that provided by this model. Furthermore, assessment and the assessment categories are intended to provide a quick guide to the overall situation in the country. This assessment model is intended to work with a wide range of national environments. In this context, we would expect that all EU Member States would be found fully compliant according to this model. The assessment indicators are intended to be as objective and factual as possible. Value judgments are avoided as far as possible.

In the assessment, each country is given a compliance score, as follows;

*Full Compliance* means an assessment score of 90-100

*High Compliance* means an assessment score of 75-89

*Medium Compliance* means an assessment score of 50-74

*Low Compliance* means an assessment score of under 50

Note: All compliance categories are defined as ranges of assessment values; This is also the case for "Full Compliance", which may therefore not always represent 100% compliance in the sense of a score of 100. It is the highest assessment category in the EBRD assessment model, but there may still be some aspects of the framework that have been marked down by the assessment model.

The details of the regulatory assessment model and methodology are given in Annex C.

## B. WTO Reference Paper and the EBRD assessment model

Some telecommunications services, mainly value added services, were included in the Uruguay Round of trade negotiations which took place between 1986 and 1994. After completion of these negotiations, WTO Members decided to open special negotiations for trade in basic telecommunications services, such as voice telephony, data transmission and satellite services. These additional negotiations took place from 1994 to 1997 and around 70 countries agreed in February 1997 to open their markets for basic telecommunications services in a multilateral agreement. Since then, more countries have become WTO Members and/or signatories to the agreement on basic telecommunications services<sup>7</sup>.

The agreement itself is complex and allows each signatory to define its own set of commitments, i.e. which services can be open for international competition, the categories of business models that would be allowed and whether to extend these commitments to other countries or not, through most-favoured-nation clauses.

The agreement also includes provisions for how this international competition shall be regulated. This is done through a "Reference Paper", which defines a set of regulatory principles for the establishment of fair market conditions. In the context of the trade negotiations that took place, the countries were given the choice of making a formal commitment to accept the Reference Paper. Most of the WTO Members made this commitment. At this time around 75 countries, including the EU Member States, have accepted the Reference Paper. From a legal point of view, a commitment to the Reference Paper means that it is part of the international treaty and therefore binding on the WTO Members.

The WTO Reference Paper<sup>8</sup> itself is a short 2½ page document that sets out rather broad and general principles which have achieved a high degree of consensus. Its main points are:

- Competitive safeguards

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<sup>7</sup> The full name of the agreement is Scheduled Commitments on basic telecommunications services annexed to the Fourth Protocol of the GATS (15 February 1997)

<sup>8</sup> [http://www.wto.org/english/news\\_e/pres97\\_e/refpap-e.htm](http://www.wto.org/english/news_e/pres97_e/refpap-e.htm)

- Prevention of anti-competitive practices
- Safeguards
- Interconnection
  - Interconnection to be ensured
  - Public availability of the procedures for interconnection negotiations
  - Transparency of interconnection arrangements
  - Interconnection: dispute settlement
- Universal service
- Public availability of licensing criteria
- Independent regulators
- Allocation and use of scarce resources

By comparison, the EU framework is set out in several directives with around 100 pages of detailed specification of how these principles should be implemented.

The EBRD assessment model is based on the WTO Reference Paper, but many of the specific indicators are drawn from the examples provided by the EU framework. The structure of the assessment model is as follows:

- Institutional framework
  - Regulatory independence
  - Dispute resolution and appeal
- Market access
  - Access to non-scarce resources
  - Access to scarce resources
- Operational environment
  - Safeguards
  - Interconnection and special access
- Universal service

A full description of the EBRD assessment model is provided in Annex C.

## C. Explanation of assessments and results

### 1. Spider diagram

A spider diagram presents the main results of the Assessment. It includes six main group indicators. For each indicator, the diagram presents the scores as percentages of the maximum achievable score. The scores begin at zero at the centre of the chart and reach 1.00 at the outside, so that in the overall chart, the wider the web, the better the scores in the assessment.

This type of diagram is useful because it provides a summary of the assessment at a quick glance. However, it is not able to show the relative weight given to each group indicator. Nor is it able to present negative values. This means that it cannot include universal service, which is handled in the assessment model by the alternative means of applying a negative score to unsatisfactory results. Where this occurs, it is mentioned in a note below the diagram.

For a more detailed description of the assessment model, see Annex C.

The six group indicators shown in the spider diagram are:

8. Regulatory independence – maximum 22 points

This group indicator is intended to show whether the legal framework includes a regulatory authority that is independent from the operators, reasonably independent from political pressure and with sufficient powers to regulate the market.

9. Dispute resolution and appeal – maximum 10 points

Points have been assigned where the National Regulatory Authority (NRA) has the power to resolve commercial disputes between operators and can demonstrate that such disputes have been resolved. The group indicator also assigns points where there is a reasonably efficient appeal mechanism. Most countries have the possibility to appeal a decision by the NRA to the administrative court system. But a country has points taken away if the appeal procedure takes too much time or if the appeal mechanism is not being used.

10. Market access wired – maximum 20 points

This group indicator looks at the authorisation framework for networks and services that do not depend on scarce resources. A country has points taken away if there are services that are not open to competition, if the licensing fees are high and if the authorisation framework is complex and there is uncertainty whether licences will be granted.

11. Market access radio – maximum 10 points

This group indicator looks at whether the regulatory framework provides certainty for non-discriminatory access to radio spectrum. It also considers whether numbering resources are available to all operators.

12. SMP and safeguards – maximum 20 points

Competitive safeguards are those measures that are intended to protect new entrants against the anti-competitive practices of incumbent operator(s) with significant market power.

The model identifies if there are formal and objective procedures to identify the existence of significant market power. It assigns a higher value if this procedure is based on a formal market analysis according to competition law principles and a lesser value if a simpler procedure based on market share is used

In addition, the assessment model looks for specific implementation (in legal provisions and in practice) of number portability, carrier selection and carrier pre-selection.

13. Interconnection and special access – maximum 18 points

This group indicator gives points for the existence of a reference interconnection offer (RIO) that is approved by the NRA and published. However, a country has points taken away if the legal framework does not set out requirement for non-discrimination for RIO usage or if there is little evidence that the RIO is being used.

Similarly, the assessment model looks for the existence of a reference unbundling offer (RUO) and assigns value where a RUO has been approved and additional points if it is used to provide services by alternative operators.

14. Universal service

The WTO Reference Paper does not require a universal service policy. But if such a policy is implemented, it should meet certain criteria:

- the objectives should be reasonable in light of the national economy and the status of the network(s).
- the objectives should be expressed in a form that is technologically neutral. (For example, they should take into account the contributions of mobile networks to the provision of universal service.)

- the obligations arising from universal service obligations, which may be a funding requirement for some of the competitors, should be non-discriminatory, competitively neutral and not overly burdensome. They should not be perceived as a barrier to market entry.

If these criteria are not met, a negative value may be assigned. Spider diagrams cannot reflect negative values. Where such negative values occur, it is mentioned in a note under the diagram.

## 2. Fixed network penetration

This chart provides the fixed network penetration defined as active subscriber lines as a percentage of population. The averages are defined as follows:

- The EU average is the average for the EU Member States as reported by the Commission Staff Working Document of June 28, 2006 on the Review of the Scope of Universal Service in line with Article 15 of Directive 2002/22/EC. (SEC(2006) 816).
- The SEE average is the average for Albania, Bosnia & Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Kosovo as reported in Cullen International's first report of the study: "Supply of Services in Monitoring Regulatory and Market Developments for Electronic Communications and Information Society Services in Enlargement Countries" for the European Commission. Turkey, which is included in the report for the European Commission, is not included in the averages for SEE in this report.
- The CIS average is the average for the Commonwealth and Independent States (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan) plus Mongolia as reported in this study.
- The EU10 average is the average for the EU Member States that are included in this report, i.e. Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

## 3. Mobile network penetration

This chart provides the mobile network penetration defined as active pre- and post-paid subscribers as a percentage of population. The averages are defined as follows:

- The EU average is the average for the 27 EU Member States as reported by the 13<sup>th</sup> Implementation Report by the European Commission
- The SEE average is the average for Albania, Bosnia & Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia, Kosovo and Turkey as reported in Cullen International's first report of the study: "Supply of Services in Monitoring Regulatory and Market Developments for Electronic Communications and Information Society Services in Enlargement Countries" for the European Commission, Turkey, which is included in the report for the European Commission, is not included in the averages for SEE in this report.
- The CIS average is the average for the Commonwealth and Independent States (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan) plus Mongolia as reported in this study.
- The EU10 average is the average for the EU Member States that are included in this report, i.e. Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

## 4. Broadband network penetration

This chart provides the broadband network penetration defined as the number of access subscribers with speeds of 144k/bits or more as a percentage of population. The averages are defined as follows:

- The EU average is the average for the 27 EU Member States as reported by the 13<sup>th</sup> Implementation Report by the European Commission

- The SEE average is the average for Albania, Bosnia & Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia, Kosovo and Turkey as reported in Cullen International's first report of the study: "Supply of Services in Monitoring Regulatory and Market Developments for Electronic Communications and Information Society Services in Enlargement Countries" for the European Commission, Turkey, which is included in the report for the European Commission, is not included in the averages for SEE in this report.
- The CIS average is the average for the Commonwealth and Independent States (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan) plus Mongolia as reported in this study.
- The EU10 average is the average for the EU Member States that are included in this report, i.e. Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

Note: The date of the main information used in this assessment is April 2008. Changes that we are aware of that have occurred since Spring 2008 have been incorporated in the report with appropriate footnotes/references. There may have been changes that have occurred that we are not aware of, in which case we would welcome readers to send in details with appropriate reference sources. The regulatory assessment results have used the April 2008 information in order to present a consistent set of results for comparison purposes. Any new information will be used in a full update of the assessment, recommended for 2009.