

## **Belarus Infrastructure Monitoring (BIM)**

**2008**

Anastasiya Glambotskaya, Elena Rakova,  
Gleb Shymanovich, Irina Tochitskaya

Edited by Anne Neumann

*Anastasiya Glambotskaya*, M.A. in Economics, M.A. in International Political Economy: IPM Research Center, Minsk, Belarus. Specializes on international economics, entrepreneurship, telecommunications.

*Elena Rakova*, Ph.D. in Economics: IPM Research Center, Minsk, Belarus. Special focus on the performance of the Belarusian energy sector, in structural and competition policy and enterprise reform.

*Gleb Shymanovich*, MA in Economics: IPM Research Center, Minsk, Belarus. Specializes on the performance of the Belarusian transport sector and public finance.

*Irina Tochitskaya*, Ph.D. in Economics: IPM Research Center, Minsk, Belarus. Special focus on international economics, energy efficiency, applied econometrics and CGE modeling.

*Anne Neumann*, Ph.D. in Economics: Chair of Energy Economics and Public Sector Management, Technische Universität Dresden. Specialisation in institutional analysis and international integration of energy markets.

A u t h o r s:

A. Glambotskaya; Dr. E. Rakova; G. Shymanovich; Dr. I. Tochitskaya

Edited by A. Neumann

R e v i e w e r s:

Dr. R. Giucci; Dr. I. Pelipas

**Belarus Infrastructure Monitoring** / A. Glambotskaya; E. Rakova; G. Shymanovich; I. Tochitskaya. – Spb.: "Невский Простор", 2008. – 50 p.

ISBN 978-5-94716-144-3

The work provides analysis of reforms in railway, road, telecommunication, gas and electricity sectors in Belarus in 2007.

### **List of abbreviations**

**BNT** – Belarusian Network of Telecommunications

**BR** – Belarusian Railways

**CPI** – Consumer Price Index

**EBRD** – European Bank for Reconstruction and Development

**GET** – German Economic Team

**MDC** – Mobile Digital Communication

**MTS** – Mobile Telecommunication Systems

**PPI** – Producer Price Index

### **Weights, measures and other abbreviations**

**tcm** – thousand cubic meters

**bcm** – billion cubic meters

**bn** – billion

**BYR** – Belarusian ruble

**eop** – end of period

**kW** – kilowatt

**kWh** – kilowatt-hour

**m** – million

**trn** – trillion

**USD** – United States dollar

**yoy** – year-on-year

**EUR** – Euro



## Contents

<b>Foreword.....</b>	<b>5</b>
<b>1. Summary .....</b>	<b>6</b>
<b>2. Quasi-Fiscal Activity in the Energy Sector in Belarus .....</b>	<b>8</b>
<b>3. Belarusian infrastructure policies in 2007.....</b>	<b>16</b>
3.1. Railways.....	18
3.2. Roads .....	21
3.3. Telecommunications.....	24
3.4. Gas .....	28
3.5. Electricity .....	32
<b>Appendix 1 .....</b>	<b>36</b>
<b>Appendix 2 .....</b>	<b>39</b>
<b>Appendix 3 .....</b>	<b>49</b>



## Foreword

This is the fifth issue of the Belarusian Infrastructure Monitoring (BIM). BIM was designed by the IPM Research Center, which is an independent research body, together with the German Economic Team in Belarus (GET Belarus). BIM is a tool used to assess the progress of structural reforms in key infrastructure industries and monitors annual changes in the infrastructure sector. The indicators developed within the BIM are intended both for monitoring the government's infrastructure policy and for research purposes.

The methodology used in BIM follows the concept of the Infrastructure Monitoring for Ukraine (IMU) of the Institute for Economic Research and Policy Consulting (IER) in Kiev, Ukraine.<sup>1</sup> This concept is based on the approach developed by the EBRD, which estimates infrastructure indices for all transition countries. Since 1998, these indices have been published annually in the EBRD Transition Report.

This report presents information on the restructuring of five infrastructure sectors of the Belarusian economy in a standardized manner, which allows for cross-industry comparisons. The monitored 21 indicators are qualitative and fall into three broad categories: (1) commercialization, (2) tariff reform, and (3) regulatory and institutional development. The aggregated index calculated on the basis of indicators presenting the status of the reforms in each sector at a given period.

A short summary outlines the major developments within selected sectors of the infrastructure. The second section provides an analysis of quasi fiscal activity in the energy sector of Belarus. A general analysis of the Belarusian infrastructure policies is presented in the third section. This detailed review of the reforms in each of the five sectors includes not only ex-post analysis, but also an outline of the major challenges and prospects for future sustainable development. A description of the reform progress in each infrastructure sector supplements the numerical evaluation and provides a broader view of the situation. Appendices summarize the evaluation in tabular form and provide methodological explanations and detailed comments for each indicator.

---

<sup>1</sup> See [www.ier.kiev.ua](http://www.ier.kiev.ua).

## 1. Summary

During the year 2007 infrastructure industries demonstrated a lack of substantial structural changes and resistance to introduction of market mechanisms. Regulatory framework in the road and transport sectors became slightly favourable, whilst remaining the same for the telecommunications sector. The situation in the natural gas and electricity sectors somewhat improved, but the sectors continued to be resistant to implementing market reforms in general.

The **railway sector's** index has not changed, remaining at the level of 1.4 with the railway operator Belarusian Railways preserving its monopoly status. The main change occurred in the tariff setting procedure, as starting from December 20, 2007 concessionary tickets were abolished, which resulted in increase of payments sub-indicator from 1.7 to 1.8. Earlier a large percentage of consumers had privileges, especially on suburban transport: Privileged passengers constituted around 20% of all passengers transported. Abolishment of concessionary tickets should lead to the increase of the share of costs covered by tariffs. In fact, this ratio has decreased in 2007, as suburban passenger transportation tariffs did not grow at all (measured December-on-December), while average price level increased by 12.1% eop. As a result, the process of eliminating cross-subsidization between passenger and freight transportation, started in 2001, was held up in 2007. No other changes in the ownership, structure, operation, state financing of the Belarusian Railways occurred in 2007.

The **road sector's** index has not changed either, but there were some changes within sub-indicators. Abolishment of privileges for a wide range of passengers contributed to the increase of the indicator, responding to final consumers' collection ratios, from 2.0 to 2.3. But this progress was offset by the reduction of Road Fund financing and corresponding decrease of indicator "Budget indebtedness" from 2.0 to 1.7. There were also some changes in legislation, related to transit and freight transportation, obligatory customs convoy in particular, but their outcomes are dubious. Private passenger transportation remained suppressed, thus seriously restraining the whole index.

The **telecommunications'** index remained at the level of 2006 at 2.0. There were no significant changes in the sector's regulatory environment and performance. Beltelecom remained monopolistic provider of the majority of telecommunications services (except mobile connections). Minor developments in 2007 were primarily associated with an increased competition for customers in the mobile and the Internet access segments, and decreasing tariffs for these services. While not denying the possibility of Beltelecom's demonopolization, the government postponed these steps. The state share of one of the mobile operators (MDC) was sold to a foreign owner in the second half of the year. It did not bring any substantial changes to the sector yet. Although the profitability of the companies in telecommunications sector in Belarus is relatively high, cross-subsidization in the landlines' segment and a high level of government's intrusion in the independent companies' operations are hindering reforms, lead to overrated tariffs for several telecommunications' services, and impede overall sector development.

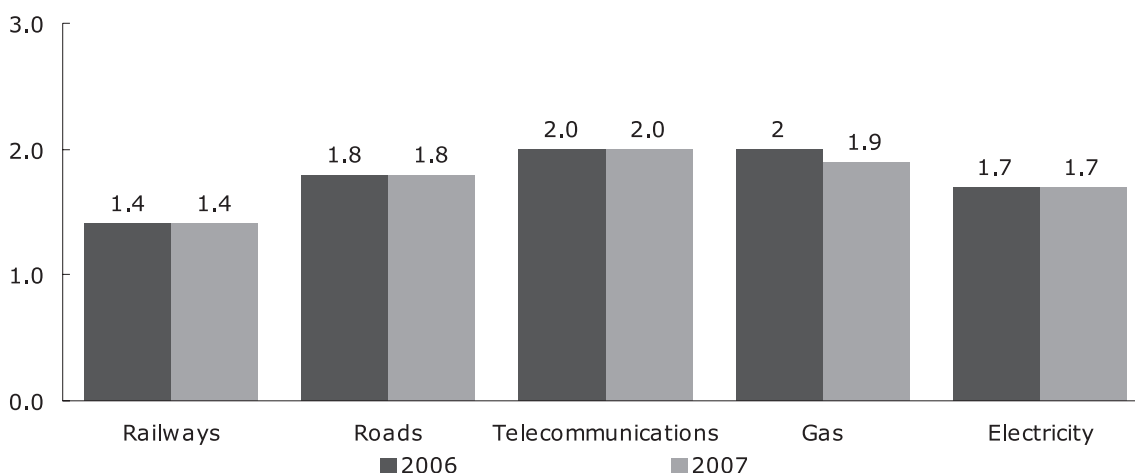
In 2007 there were no considerable structural reforms implemented in the **gas sector**. However, slight changes occurred when Gazprom acquired 12.5% of Beltransgaz shares. Households' tariffs remained at a below cost level and cross-subsidization increased. In addition, preferential tariffs for some industrial consumers negatively affected the financial standing of energy service providers. Improvement in payment discipline continued, although the debts of some consumers for previous year's consumption are not fully repaid yet thus restricting possible investments in asset modernization. Strengthening of the state interference in tariff setting policy, mark-ups

reduction and cross-subsidization increase caused the decrease in the index from 2.0 in 2006 to 1.9 in 2007.

Even doubling the price for imported Russian natural gas did not cause any market reform implementation in the **electricity sector**. Similar to the previous year, some positive changes were made using administrative measures, such as maintenance of full and on time payments for current electricity consumption. Whereas the company Belenergo liquidated external overdue debts, debts of the domestic consumers remain an issue for Belenergo. The cost coverage of household tariffs remained below costs but increased compared to the level of 2006. The practice of setting preferential tariffs for selected industrial consumers was continued. In general, due to the lack of essential changes, the index remained at the same level as in 2006: 1.7.

**Figure 1:**

IPM Research Center's infrastructure reform indices for Belarus



Source: Own calculations.

## 2. Quasi-Fiscal Activity in the Energy Sector in Belarus

### Introduction

The energy sector in Belarus is characterised by slow progress in reforms, domination of vertically integrated state-owned monopolies with weak corporate governance structures and the lack of an independent regulator. By maintaining administratively set prices of natural gas and electricity for some domestic users, i.e. agriculture and households at levels that do not recover full cost, authorities implicitly subsidize them. Such government-sponsored subsidy schemes coupled with tolerating non-payment for consumed energy and excessive losses or theft can be described as quasi-fiscal activities (QFAs) in the energy sector.

QFAs not only cause inefficiencies in the sector but may also undermine macroeconomic stability. Belarus' energy sector faces problems related to aging industrial capacities, while existing tariff schemes do not ensure proper infrastructure investment incentives. Moreover, administrated energy prices are major obstacles for private investment in the energy sector. Furthermore, QFAs lead to over consumption and waste of resources, which result in high energy-intensity of the economy. It hampers efficient resource allocation by supporting loss-making enterprises and taking away public resources from priority needs. QFAs are an obstacle on the way of structural changes of the economy as it cuts the incentives to restructure for companies.

### Quasi-Fiscal Activity in the Energy Sector: Methodological Issue

The concept of quasi-fiscal activity (QFA) was put forward in IMF policy papers and refers to operations that "could in principle be duplicated by specific budgetary measures in the form of an explicit tax, subsidy, or other direct expenditure".<sup>2</sup> The IMF *Manual on Fiscal Transparency* defines QFA as operations that result in a net transfer of public resources through non-budget channels.<sup>3</sup>

The most extensively researched QFAs are those conducted by financial institutions, while other activities including those in the energy sector have been investigated less intensively. This is partly due to unavailability and inaccuracy of the data required for quantitative analysis. However, quasi-fiscal activities in the energy sector are common in transition and some developing countries. In Belarus, as in any other CIS country, energy pricing inherited from the soviet past; prices did not reflect cost but were set to attain certain social goals such as affordability of energy for households or the survival of (often inefficient) companies.<sup>4</sup>

In the energy sector different practices of QFAs can be identified<sup>5</sup>: setting tariffs below cost recovery level, tolerate the build-up of arrears to energy companies as a result of non-payments or payments are not being made in full, excessive losses or theft, non-cash payments, and government guaranteed borrowing. The estimation of each of these subcomponents is challenging due to lack of information, reluctance of state-owned energy enterprises to provide the necessary data (insisting that those are commercially sensitive), non-use of generally accepted accounting principles, etc.

There are two ways to evaluate QFAs in the energy sector<sup>6</sup>: the end product or via the financial balance approach. The following section provides an overview of both approaches.

<sup>2</sup> Mackenzie G.A., Peter S. (1996). Quasi-Fiscal Operations of Public Financial Institutions. *IMF Occasional Paper* No. 142.

<sup>3</sup> IMF (2001). *Manual on Fiscal Transparency*, Washington: International Monetary Fund.

<sup>4</sup> IMF et al.(1991). *A Study of the Soviet Economy*, Vol. 3, Paris: OECD.

<sup>5</sup> Petri, M., Taube, G., and Tsyvinski, A. (2002). Energy Sector Quasi-Fiscal Activities in the Countries of the Former Soviet Union. *IMF Working Paper*. WP/02/60.

<sup>6</sup> Petri, M., Taube, G., and Tsyvinski, A. (2002). Energy Sector Quasi-Fiscal Activities in the Countries of the Former Soviet Union. *IMF Working Paper*. WP/02/60.



### End-Product Approach

#### a) Mispricing

If governments in the CIS countries maintain administratively set prices of natural gas or electricity at levels below cost the energy supply companies subsidize the consumers with:

$$QFP = (P - P_A) * V, \quad (1)$$

where  $QFP$  is the quasi-fiscal activity on account of mispricing,  $P$  is the cost-recovery tariff,  $P_A$  – the actual tariff, and  $V$  – the output of electricity or natural gas. (Assuming that the market clearing volume at cost recovering prices is lower (i.e., volumes are price-elastic) and that unit-production cost increase with volume (i.e., increasing marginal cost), the loss of the energy supplying companies exceeds  $QFP$ .)

#### b) Arrears

If end-users of natural gas or electricity do not pay the revenue losses of energy companies equals:

$$QFR = (1 - R) * P_A * V, \quad (2)$$

where  $R$  is the payment collection ratio, that ranging from 0 to 1.

#### c) Excessive losses and theft

Revenue losses due to mispricing and toleration of low bill collection result in inefficiencies on the supply side (poor maintenance, technical problems in transmission and distribution, inadequate metering or billing practices, etc.). Consequently, technical energy losses exceed the “normative”<sup>7</sup> level. The extent of **excessive losses** can be estimated by comparing total losses (including normative and excessive) with the loss-factors that would be normally expected, e.g. estimates from countries with competitive energy sectors.

$$QFL = V * ((L - L_N) / 100) \text{ or} \\ QFL = V * ((L - L_B) / 100), \quad (3)$$

where  $L$  denotes total losses,  $L_N$  are normative losses, and  $L_B$  are benchmark losses (market economy estimations). Losses are estimated as a percentage of production.

In sum, total quasi-fiscal activity equals:

$$QFA = QFP + QFR + QFL. \quad (4)$$

### Financial Balance Approach

If actual revenues of an energy company are insufficient to cover its expenses, and if it does neither obtain explicit subsidies from the state budget nor has sufficient access to the capital market, one alternative might be running arrears.

*Payment arrears* relate to delayed or incomplete input payments:

$$AQ = (1 - R_Q) * Q, \quad (5)$$

where  $Q$  is total amount that has to be paid for inputs and  $R_Q$  is the inputs payment ratio ranging from 1 to 0.

In the case of partial payment of taxes, energy enterprises' tax arrears are equal to:

$$AT = (1 - R_T) * T, \quad (6)$$

where  $T$  is the total amount of taxes that need to be paid and  $R_T$  is the ratio of tax payment that ranges from 1 to 0.

<sup>7</sup> “Normative” losses are technical waste of production due to transformation leakage.

*Future generation arrears or underinvestment* into maintenance and replacement of fixed assets or capacity expansion are defined as:

$$A_I = (1 - R_I) * I \quad (7)$$

where  $I$  denotes the necessary amount of investments and  $R_I$  is the ratio of needed and actual investments between 1 and 0.

*Mispricing of inputs (MPI)* in the case when such inputs are energy products (e.g. petroleum) is considered by Petri, Taube, and Tsyvinski (2002) as another subcomponent of QFAs, while Tchaidze (2007) does not take it into account :

$$MPI = QEI * (P_{MI} - P_{AI}) \quad (8)$$

where  $QEI$  is quantity of energy used as an input,  $P_{MI}$  – the market or cost recovery input price,  $P_{AI}$  – the actual input price.

Total quasi-fiscal activity is:

$$QFA = MPI + A_Q + A_T + A_I \quad (9)$$

The unavailability of data on financial accounts of energy enterprises, does not allow us to estimate QFAs in the Belarusian energy sector using financial balance approach, therefore, in calculations we utilize the end-product approach methodology that based on end-product approach.

It should be noted that the quasi-fiscal activity concept differs from the quasi-fiscal deficit (QDF). The later is the losses incurred by quasi-fiscal activities.<sup>8</sup> For example, in the case of cross subsidization QFA may be larger than QDF or they can offset each other. The quasi-fiscal deficit will be equal to zero, if in the country electricity or gas are sold to households at prices below cost-recovery level, while prices for industrial consumers exceed this level, and are sufficiently high to cover the difference between the hypothetical value of domestically sold energy products for households valued at the cost recovery prices and the actually collected revenue. However, it would be QFAs amount to implicit quasi-fiscal subsidy to population. There also might be a situation when quasi-fiscal subsidy to households is equal to QDF, or quasi-fiscal deficit is smaller than QFAs.<sup>9</sup> For reasons of data availability this paper limits its scope to the assessment of QFA rather than QFD.

### **Estimation of the Quasi-Fiscal Activity in the Energy Sector in Belarus**

In general, the energy sector includes the electricity, gas, oil, coal and parts of the utilities (e.g. district heating) sector. For reasons of data availability this paper limits its scope to the electricity, the gas and the heating sector.

This section estimates the QFAs based on the end-product approach and taking into account that there are no reliable estimations on cost recovery prices and non-payment rates in the heating sector.

#### *Electricity sector Quasi-Fiscal Activity*

##### Mispricing

The assessment of mispricing critically depends on estimating reliable cost recovery prices. Petri, Taube, and Tsyvinski (2002) pointed out that "in the case of natural gas and electricity, estimating mispricing is necessarily subject to great uncertainty and judgement, as any quantitative analysis is based on hypothetical benchmark prices.

<sup>8</sup> Le Houerou, P., Sierra, H. (1993). Estimating Quasi-Fiscal Deficit in a Consistency Framework: The Case of Madagascar. *WB Working Paper*. WP 1105.

<sup>9</sup> Petri, M., Taube, G., and Tsyvinski, A. (2002). Energy Sector Quasi-Fiscal Activities in the Countries of the Former Soviet Union. *IMF Working Paper*. WP/02/60.

The results of such analyses tend to be quite sensitive to change in these benchmarks". For example, the Belarusian Ministry of Energy and the Ministry of Economy made different estimations of the level of cost coverage for households in the energy sector. According to Belarusian Ministry of Economy assessments, in January 2007 the cost coverage ratio for natural gas was 157%, whereas the Ministry of Energy considered that it was 115%. Such discrepancy was also observed in evaluations of energy tariffs for electricity. The Ministry of Energy assessed the tariffs for households 7% below cost recovery level, while the Ministry of Economy estimated the level of coverage at 115%.

In the case of electricity we use the cost recovery level provided by the Ministry of Energy for all users (Table 1). Yet, it should be noted that cost recovery levels for consumer groups differ, e.g. transmission and distribution cost for industrial users that are often connected to the high-voltage grid are significantly lower than those for households connected to low voltage distribution grids. However, such detailed cost recovery estimations for different Belarusian groups of electricity users are not available. In addition, cost recovery level used in the assessment of QFA does not include the reproduction of capital. Therefore, the estimates of the prices necessary to recover electricity supply cost are systematically below long-run marginal cost (LRMC).

**Table 1:**

Electricity production costs and prices for different groups of consumers  
(US cents per kWh)

	As of Jan 2003	As of Jan 2004	As of Jan 2005	As of Jan 2006	Since Jan 2007	Since July 2007
Costs	2.32	3.21	3.50	4.40	5.86	n/a
Prices for:						
State financed organizations	3.00	4.02	4.02	4.90	7.15	10.2
Industry	4.41	6.02	6.02	6.70	9.21	8.91 <sup>1</sup> (weighted average)
Households	2.39	3.32	3.45	4.09	5.23	5.23
Agriculture	2.44	2.66	2.66	2.90	4.32	5.18
Other enterprises	4.41	6.02	6.02	6.70	9.21	—

Source: The Ministry of Energy.

We compare the actual price paid by different consumer groups with the cost recovery level estimated by the Ministry of Energy. Table 1 show that the residential tariff and the tariff for agricultural producers were cross-subsidized by higher industrial tariff. However, according to the World Bank estimations and current practice of several OECD countries, where prices reflect the relative costs of supply, average residential electricity prices should be about twice the level paid by industrial consumers (Table 2).

In Belarus the ratio of household tariff to industrial tariff in electricity was 58%, while in 2007 the situation worsened and the household electricity price was 50 percent or less of the industrial average (Table 3). According to EBRD estimates, to cover the Long Run Marginal Cost (LRMC) of production, electricity bills would need to increase to 6.6 % of household income. In 2006 the share of utility bills in the overall expenditures of Belarusian households was around 6% and decreased to 5% in 2007.

<sup>10</sup> The electricity tariff for industrial consumers that use high voltage grids (above 750kVA) is 8.68 US cents per kWh, while those who use grids below 750kVA is 10.2 US cents per kWh. Therefore, the weighted average tariff in the industry is 8.91 US cents per kWh.

**Table 2:**

Retail Energy Prices in Selected Countries (USD/unit)

	Nat Gas for Industry (107 kcal GCV(e))	Nat Gas for Households (107 kcal GCV(e))	Electricity for Industry (kWh)	Electricity for Households (kWh)
Austria	—	902.90	0.13	0.20
Czech Republic	366.34	531.09	0.11	0.14
Denmark	—	1270.76	0.08	0.32
Finland	251.56	361.19	0.08	0.14
France	393.69	751.77	0.05	0.15
Germany	—	—	0.08	0.21
Greece	379.06	604.68	0.07	0.11
Hungary	535.60	585.01	0.13	0.17
Ireland	—	863.17	0.15	0.23
Japan	401.53	1245.56	0.12	0.19
Netherlands	227.77	1015.82	—	0.27
Norway	—	—	0.06	0.12
Poland	337.45	577.20	0.08	0.13
Portugal	425.81	1022.39	0.12	0.20
Slovak Republic	398.25	618.77	0.13	0.17
Spain	373.18	840.73	0.09	0.16
Switzerland	566.75	850.61	0.08	0.13
United Kingdom	379.48	801.12	0.13	0.22
United States	304.93	464.33	0.06	0.10

*Note.* Data provided for the 1st quarter 2007.

*Source:* Key World Energy Statistics, IEA 2007.

**Table 3:**

Ratio of Household Tariff to Industrial Tariff for Electricity and Gas

Sector	2002	2003	2004	2005	2006	2007
Gas	0.51	1.03	0.79	0.80	0.80	0.78
Electricity	0.34	0.76	0.61	0.58	0.58	0.49

*Source:* World Bank (2006), own estimations.

Hence, in 2006 industrial users, who had a tariff well above cost recovery level, paid implicit tax and cross-subsidized retail users and agriculture. According to our estimates households received a quasi-fiscal subsidy equal to 0.9% of GDP, while for agriculture it was 0.6% of GDP. Therefore, gross QFA in the electricity sector due to mispricing were 1.5% of GDP. However, according to data from the Ministry of Energy the cost recovery level in electricity was 4.45 US cents in 2006 while average tariff amounted 4.12 US cents. In this case the QFA related to mispricing of electricity was even higher (2.5% of GDP).

### Arrears

Payment discipline in Belarus improved over the past years and the collection rate in 2006 reached 100.3% (consumers paid back part of the previous year's debts), eliminating QFAs in the electricity sector. However, despite the progress in collection of current bills, the electricity sector faces a problem of past arrears (Table 4) that amounted to 0.6% of GDP in 2006. The main debtors of Belenergo are the companies of the Ministry of Agriculture (accounting for 62% of all debts to Belenergo).

**Table 4:**

Debts for electricity consumption (USD m)

	As of January 1, 2003	As of January 1, 2004	As of January 1, 2005	As of January 1, 2006	As of January 1, 2007
Total, including	812.60	721.38	331.48	293.92	222.52
Domestic consumers	758.59	692.25	328.62	293.92	222.52
Foreign consumers	54.01	29.13	2.86	—	—

Source: The Ministry of Statistics and Analysis.

#### Losses, including theft

According to Belenergo's Annual Reports the level of losses in 2006–2007 was around 11.2% mainly due to commercial losses and inappropriate billing practice (weakness in billing coverage), the absence of meters for measuring actual consumption. Since data for 2006 are not available, we assume the same level of losses given there was no information indicating that the situation has been improved considerably. The benchmark level of losses (around 8%<sup>11</sup>) has been taken from OECD countries with competitive electricity sectors. Comparing the level of losses in Belarus with this benchmark level we estimate the extent of excessive technical and commercial losses and the scope of related QFAs, which appeared to be around 0.24% of GDP.

#### *Natural Gas sector Quasi-Fiscal Activity*

##### Mispricing

According to data provided by the Ministry of Energy in the natural gas sector the main source of mispricing was liquefied (condensed) gas, the price for which was set 30% below cost recovery level. Therefore, we estimated QFA from gas mispricing at 0.1% of GDP. In addition, some preferential prices at a level of about 50–80% of the official price were kept for some selected enterprises (Belenergo, some state plants of chemistry, peat, light, porcelain and other industries).<sup>12</sup> However, due to missing data the scope of such QFAs are difficult to measure.

##### Arrears

The same as in the electricity sector in 2006 the bill collection in the natural gas sector was 100% and the arrears mainly related to debts accumulated in past periods (Table 5). These cumulative arrears were equal to 3.5% of GDP in 2006.

**Table 5:**

Arrears for natural gas (USD m)

	As of January 1, 2003	As of January 1, 2004	As of January 1, 2005	As of January 1, 2006	As of January 1, 2007
Total, including	874.11	708.16	248.66	186.05	131.03
Arrears of domestic consumers	774.63	594.48	247.51	186.05	131.03
External consumers	99.48	113.68	—	—	—

Source: The Ministry of Statistics and Analysis.

<sup>11</sup> International Energy Agency.

<sup>12</sup> IPM Research Center (2007) *Belarusian Infrastructure Monitoring*, [www.research.by](http://www.research.by).

## Heating sector Quasi-Fiscal Activity

### Mispricing

For the purpose of this study we use the cost recovery estimates provided by the Ministry of Energy. On average the price for heating was only 72% of the cost recovery level and brought about QFA of 1% of GDP.

### Losses

The official level of losses in the heating network was around 9.9%, while some experts insisted that it was considerably higher. According to some sources losses in distribution amounted to 15–25% of heat supply, compared with 5% in Western European systems. We use the official level of losses for estimation of QFA, which was 0.3% of GDP in 2006.

The analysis has shown that QFAs in the energy sector were sizable and reached 3.1–4.1% of GDP in 2006<sup>13</sup>, mainly caused by mispricing in the electricity sector (Table 6). Taking into account that following the hike in natural gas prices in 2007 triggered an increase of cross-subsidization in electricity, a further increase in QFAs is most likely.

**Table 6:**

Quasi-Fiscal Activity in the Belarusian Energy Sector (% of GDP)

	Mispricing	Arrears	Losses	Total
Electricity	1.5–2.5	—	0.24	1.74–2.74
Gas	0.1	—	n/a	0.1
Heating	1.0	n/a	0.3	1.3
<b>Total QFA</b>	<b>2.6–3.6</b>	<b>—</b>	<b>0.54</b>	<b>3.14–4.14</b>

Source: Own estimations.

## Macroeconomic implications of QFAs

Affecting the real and the financial side of economy, QFAs have potential significant macroeconomic implications. Inadequate prices of energy products cut incentives for their efficient use and lead to wasteful consumption. As a result, the energy intensity of the Belarusian economy is very high by international standards.<sup>14</sup>

Improper energy prices do not provide correct signals to enterprises undermining their incentives to restructure. Implicit subsidies provided through mispricing support loss-making enterprises and thus take away public resources from priority needs. On the other hand, maintaining administratively set energy prices at a level that does not offset the recovery costs result in underinvestments and depletion of the capital stock in the energy sector.

Cross-subsidization, such as setting energy prices below-cost recovery level for households, at the expense of industrial consumers (who pay higher tariffs) distorts the price structure in the whole and erodes competitiveness of enterprises in external markets. In addition, since such quasi-fiscal subsidy to population is untargeted it disguises governments' social policies. Yet, QFAs in the energy sector are quite inefficient instrument of social policy since well-off households, which consume more energy and utility services, receive more benefits from subsidization.<sup>15</sup>

If end-users do not pay for natural gas and electricity the energy sector enterprises can start to run arrears on their obligations towards their suppliers and budget (tax authorities),

<sup>13</sup> In 2005 the World Bank estimated QFA in electricity and gas sector at around 0.5% of GDP. See: World Bank (2006). *Belarus: Addressing Challenges Facing the Energy Sector*.

<sup>14</sup> Tochitskaya I. (2006). The Macroeconomic Impact of Gas Price Increase in Belarus: Quantitative Assessment, PP/10/06, IPM Research Center, [www.research.by](http://www.research.by).

<sup>15</sup> See: Freinkman, L., Gyulumyan, G., and Kyurumyan, A. (2003). Quasi-Fiscal Activities, Hidden Government Subsidies, and Fiscal Agenda in Armenia, *World Bank Working paper*, 16, Washington, DC.



and finally get involved into mutual arrears. In that case, the government will have to provide loans or subsidies to energy enterprises, which may result in high inflation rates.

Subsidies, that government may have to grant to the energy sector in order to resolve payment arrears issues and heavy debt accumulation, would typically increase the vulnerability of the budget. Besides, budget revenues and fiscal stance can be negatively affected by tax arrears of the energy sector, e.g. after the import natural gas price hike in Ukraine, the tax arrears of Naftogaz (which was not allowed to immediately raise consumer prices) amounted to 1% of GDP in 2006.<sup>16</sup>

In general, quasi-fiscal activities in the energy sector enhance intransparency and distort the picture of the government's true fiscal position, which may cause inappropriate fiscal policies.

Energy subsidies can be financed by accumulating external state debt, thus worsening the external sustainability position and possibly impeding access to international capital markets. For example, the Belarusian government approached Russia several times with the request of USD 1.5 bn loan for stabilization purpose after the gas price hike in 2007.

Other adverse effects of QFAs include: poor maintenance or technical problems in transmission and distribution which are dangerous for environment and may end up in ecological catastrophe; Toleration of arrears can result in spreading of non-payment practice to other areas and can create moral hazard problems, poor quality of the energy and utility system decreasing the living standards of population.<sup>17</sup>

## Conclusions

The estimation has shown that QFAs in the energy sector were sizable and reached 3.1–4.1% of GDP in 2006. The significant increases in prices of natural gas sold by Gazprom to Belarus in 2007 posed new challenges to the domestic energy market. The reluctance to pass through all increases to final consumers most likely implies that Belarus will also face expansion of QFAs mainly on account of mispricing and increase in cross subsidization not only between households and industrial consumers but within industry by formation of the privileged group of enterprises that buy energy or gas at the below-cost recovery prices. In addition, taking into consideration that depreciation of capital assets in the energy sector today is more than 64%, mispricing will hamper the renovation of fixed assets and inevitably will result in higher excessive losses.

QFAs turned out to be a very serious problem on both, macro and micro levels. On macro level it hampered and distorted financial flows and macroeconomic stability, posing an additional burden on the budgets and in some cases leading to rising foreign indebtedness. On the micro level the energy sector in Belarus needs considerable investments, which the private sector is not eager to make due to state price regulations. The energy sector deficit was financed primary through direct government's subsidies, default on payables, the depletion of existing energy sector assets, and poor quality of service to customers.

Quasi-fiscal activities remain an obstacle for the Belarusian energy sector development. On the other hand, limited progress in the energy sector reforms result in the instability of the top-down trend to reduce or eliminate QFAs, which therefore might easily be reversed. As it was shown by the Ukraine experience, an external energy shock in the form of increased natural gas prices resulted in the expansion of mispricing practice and increasing toleration of arrears that together led to an increase in QFAs. Thus, elimination of the QFAs critically depend on energy sector reforms that should be put at the centre of overall reform agenda.

<sup>16</sup> IMF (2007). Ukraine Selected Issues, *IMF Country Report* No. 07/47.

<sup>17</sup> Freinkman, L., Gyulumyan, G., and Kyurumyan, A. (2003). Quasi-Fiscal Activities, Hidden Government Subsidies, and Fiscal Agenda in Armenia, *World Bank Working paper*, 16, Washington, DC.

### 3. Belarusian Infrastructure Policies in 2007

Despite some macroeconomic progress, market oriented structural reforms are still not on the government's agenda in Belarus. Restructuring and privatization of enterprises, and the establishment of a regulatory framework independent of political interference, are no priorities for the government. The general impression that emerges from analyzing the five infrastructure industries in this report (roads, railways, telecommunications, natural gas and electricity) is a lack of significant changes in the regulatory framework (Figure 2).

Reforms in the **transport sector** remained inconsecutive. No attempts were made to reform Belarusian Railways, a monopolistic railway operator and service provider, nor public auto transportation companies. Still, the automobile transportation is more open to competition, thus state-owned providers of road transportation services generally received more favorable treatment than their private competitors. The main event of 2007 was the abolishment of privileges to a wide range of passengers that should result in an increase of final consumers collection ratios. Some legal acts designed to simplify transit through Belarus and enhance freight transportation hardly improved the overall environment. Nevertheless, a serious growth of transportation services occurred in 2007, indicating favorable external conditions.

The government interference in the activity of the **telecommunication sector** preserves. Although the government takes nominal steps in bringing sector legislation towards international standards (WTO in particular), the actual regulatory framework remains the same. Beltelecom operates as a national monopoly in telecommunications. The state share in one of the mobile operators (MDC) was sold to a foreign owner at the end of 2007. The transaction was not entirely transparent. There are no definite plans for privatization and corporatization of the national operator or the creation of an independent regulator.

**The energy sector** (both natural gas and electricity) does not show noticeable progress in implementing market reforms. Slight improvements in payment discipline have occurred. The use of administrative measures ensures that all current consumption of imported natural gas and electricity is paid on time and mainly in cash. External overdue debts were paid off and current debts for energy consumption were significantly reduced. For internal payments, non-monetary payment schemes constituted less than 1% of total payments. However, the government did not manage to completely eliminate the practice of soft budget constraints and non-payments.

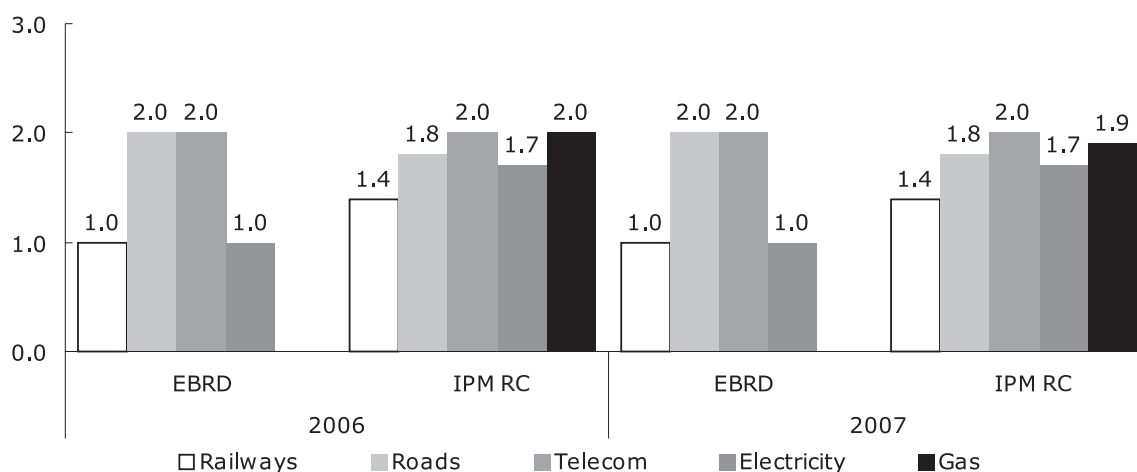
The practice of tariff setting has worsened. Cross-subsidization in the natural gas and electricity sectors increased compared to the previous year. Considerable reduction of mark-ups, the preferential tariff setting for some industrial enterprises and incomplete compensation to the service providers by the state for servicing certain household groups at preferential tariffs negatively affected the financial results of the energy enterprises, thus restraining investment in new equipment and technologies.

There are only minor differences between the EBRD and the IPM Research Center indices (Figure 2). Due to more precise scale used by the IPM Research Center the indices of reforms in railway and electricity sectors are higher than those of EBRD, while reforms in the road sector received a slightly lower grade. Both EBRD and the IPM Research Center experts did not find much progress in implementing reforms in any sector of the Belarusian infrastructure.

Despite some divergence of opinion, the EBRD and the IPM Research Center indices do not conflict with each other.



**Figure 2:**  
Infrastructure reform indices for Belarus



Sources: EBRD (2007). People in Transition, Transition report 2007; EBRD (2006). Finance in Transition, Transition report 2006; IPM Research Center estimates.

## 3.1. Railways

### 3.1.1. Progress in 2007

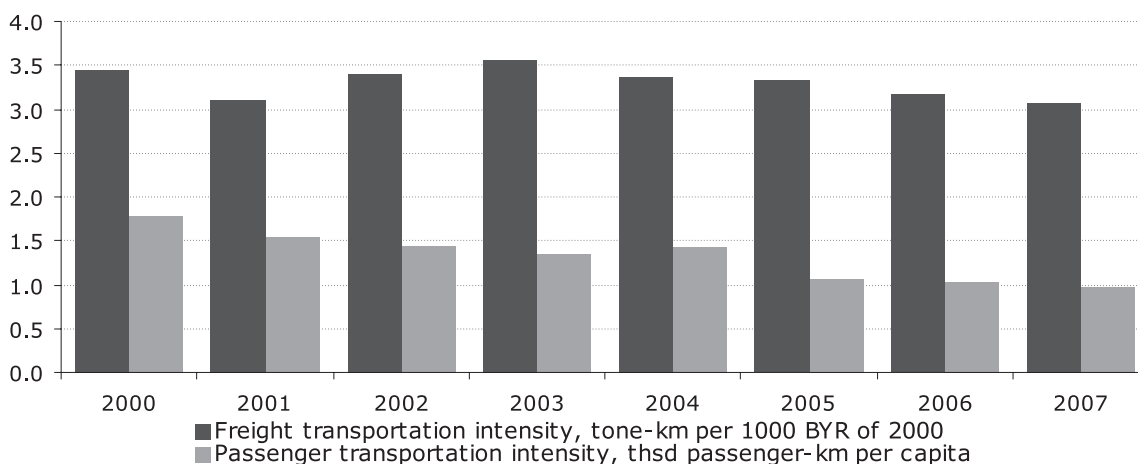
Transport services in 2007 alongside with export of manufacture goods to Russia were main factors that allowed Belarus to limit current account deficit, caused by the natural gas price hike in the beginning of the year. Railway services played a significant role in this regard, as they accounted for around 37% of the surplus of transport services balance.

Belarusian Railways (BR) remains a sole operator and provider of transport services. Its structure remained unchanged in 2007. It is still engaged in many non-core activities and includes 29 healthcare institutions, 14 cultural units, some sport and education institutions, and farms. A substantial part of revenues gained from transportation services is still being spent on financing non-core activities.

The freight traffic of BR grew in 2007 by 5.0% in nominal values. As the economy growth rates were much higher, this implied a further decrease in the intensity of railway freight transportation by 3.0% (Figure 3).<sup>18</sup> This decrease is related both to the railway attractiveness losses compared to automobile freight transportation, and to the slow industrial output growth in Russia. Freight carriages often go empty in direction from Russia to Europe. It is widely believed that this situation can be improved by attracting transit of Chinese freights, directed to Europe. Revenues from freight transportation grew by 16.9% in nominal terms<sup>19</sup> and guaranteed 81.1% of the railway exports.

**Figure 3**

Railway transportation intensity



Source: own calculations.

The volume of passenger traffic has decreased by 5.8% and its intensity by 5.6% (Figure 3). This decline was caused mainly by the 12.5% reduction of suburban transportation for which several reasons exist: First and foremost the growing income of population and a resulting preference to travel on personal cars; Second, declining mobility of population; Third, an abolishment of concessionary tickets.<sup>20</sup>

<sup>18</sup> Freight traffic intensity is measured as a ratio of freight volume to GDP in real terms (tone-km per 1.000 BYR of 2000). Passenger transportation traffic intensity is measured as a ratio of passenger traffic volume to population (thsd passenger km per capita).

<sup>19</sup> As producer price index grew by 16.3% yoy, this implies that in real terms this growth is much less impressive.

<sup>20</sup> Suburban passenger traffic fell by 25% in January 2008 compared to January 2007 ("Belorussy i Rynok", #9(793) on March 03-10, 2008 <http://www.br.minsk.by/index.php?article=32287>).

Tariffs for suburban passenger transportation grew by 117.9% yoy (Table 7). But measured December-on-December the price index is equal to 0% eop, so tariffs should not be considered as a factor hampering suburban transportation in 2007. The outcome of such price stability are growing losses of BR (as price levels in Belarus, measured in CPI, grew by 12.1% eop) and increasing cross-subsidization between passenger and freight transportation. Nowadays tariffs cover only 30% of costs of internal passenger transportation (35–37% in 2006). On the contrary, international tariffs grew remarkably in 2007 by 28.6%.<sup>21</sup> Actual costs of tickets to Moscow or Saint-Petersburg from Minsk are comparable to the costs of air-tickets, and thus suppress traffic volumes in this direction.

National and international freight tariffs in 2007 grew by 11.4% and 16.5% respectively. The growth rate of national freights tariffs exceeded both the consumer and service price index, and allowed to cover 70% of related costs.<sup>22</sup> At the same time it was the second consecutive year in which tariffs for domestic freights grew slower than for international (Table 7). This fact casts doubts over the ability of BR to achieve profitability of national freights by 2010<sup>23</sup> and thus to eliminate cross-subsidization between them and international freights.

**Table 7**

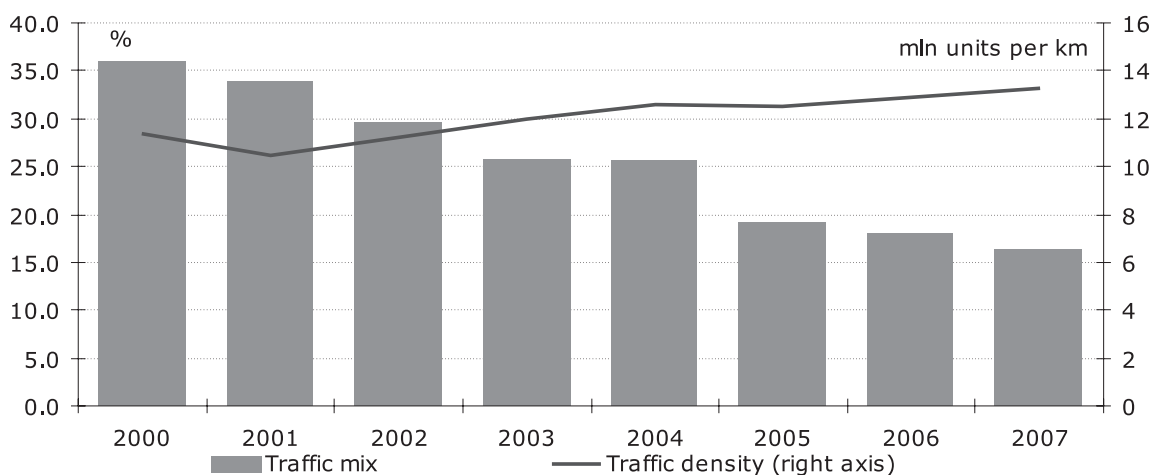
Price indices of railway transportation services, yoy

	2001	2002	2003	2004	2005	2006	2007
Freight transportation							
international	230.5	118.2	117.6	107.1	106.2	114.4	116.5
domestic	207.8	139.2	135.5	157.5	113.0	109.3	111.4
Passenger transportation							
international	183.7	140.2	132.4	151.5	112.1	117.3	128.6
national	251.4	197.4	141.7	117.0	109.5	111.3	113.3
suburban	269.2	202.9	162.0	134.8	120.0	120.4	117.9
Consumer price index	161.1	142.6	128.4	118.1	110.3	107.0	108.4
Service price index	216.8	193.4	161.9	121.2	112.0	113.2	108.8

Source: Ministry of Statistics and Analysis.

**Figure 4**

Trends in railway transportation environment



Source: own calculations.

<sup>21</sup> Besides, this fact stresses the presence of cross-subsidies between domestic and international passenger transportation.

<sup>22</sup> According to V. Jerelo tariffs covered only 30–50% of costs several years earlier. ("Belorusy i Rynok", №9(793) on March 03-10, 2008 <http://www.br.minsk.by/index.php?article=32287>)

<sup>23</sup> This task was stated by V. Jerelo.

Overall conditions in which railway operates remained favorable in 2007.<sup>24</sup> In 2007 the share of passenger transportation has further decreased to 16.4% (Figure 4). Simultaneously, traffic density increased by 3.1% and has reached 13.3 m units per km.<sup>25</sup> Such developments guarantee, on the one hand, a declining need for cross-subsidization, and on the other, lower fixed costs related to maintenance and operation of the railway network. As a result, profitability of the railway sector grew by 21.2%, but its further development requires reforms, as a state can not provide BR with the needed amount of investments.

### 3.1.2. Reform agenda

The most discussed problem faced by railways is the abolishment of cross-subsidization between passenger and freight transportation. This can be achieved by forcing passengers to cover a greater share of costs while providing the most sensitive (to railway tariffs increase) part of population with direct income compensation. Some progress in this direction has been achieved by abolishing concessionary tickets.<sup>26</sup> However, the effectiveness of direct income compensations introduced instead is doubtful, and limits the growth of tariffs.

Another important reform issue is the abolishment of all non-core activities and splitting of core activities into separate lines of business. In the beginning of 2008 these issues were officially raised by BR top-management. It proposed to restructure BR into a state-owned joint-stock company, separate social infrastructure from the company, and allow private carriers to operate on the railways. It is expected that these reforms will be implemented in several years. So the dialogue regarding the reform agenda has begun, but whether they will be implemented is still unclear. However, in order to guarantee sustainable development of BR, it should be freed from the burden of social support and be able to persuade efficiency of operation as its primary goal. Division of Belarusian Railways into several enterprises dealing with passenger transportation, freight transportation and infrastructure operation will promote separation of profitable lines of business from unprofitable ones. The state should take the burden of subsidizing the last ones.

Such reforms can be carried out in the following steps:

- Initially, Belarusian Railways should pass its social infrastructure holdings such as housing facilities, hospitals and kindergartens to state or local governments. Production plants, farms and service companies should be separated from the company;
- Government should create a clear regulatory framework by separating the economic activities of the railways from its regulation. An independent regulator for this sector would ensure that investment and other decisions are not influenced by the concerted interests of consumers of transportation services or by railway construction companies. Later on it could also regulate access to the market of private carriers and forwarding companies. A transparent tariff setting policy, which would not be influenced by Belarusian Railways, should be the responsibility of the regulator;
- Finally, the economic activities in this sector should be divided into separate companies. Initially these companies should form a holding. Then, with a suitable regulatory framework in place and occurring incorporation, it will be possible to consider privatization in the sector.

<sup>24</sup> These conditions can be evaluated by traffic mix proportion of passengers and traffic density. Traffic mix characterizes the share of passenger traffic in total traffic (sum of passenger and freight traffics). Traffic density is a ratio of total traffic per 1km of railroads.

<sup>25</sup> For international comparison see Amos, P. (2005). Reform, Commercialization and Private Sector Participation in Railways in Eastern Europe and Central Asia. The World Bank Group Transport paper #4, p. 2.

<sup>26</sup> Later concessionary tickets were introduced back for pensioners for summer period.

## 3.2. Roads

### 3.2.1. Progress in 2006

The situation in the road sector remained largely unchanged in 2007 compared to previous year.<sup>27</sup> The road fund, main source of financing road programs, accumulated BYR 1718.7 bn (91.7% of the planned level) or 1.8% of GDP. It is 0.3% of GDP less than in 2006 and half percent less than in 2005. This quite sharp reduction forced Belavtodor to attract credit resources to finance its programs.<sup>28</sup> The practice of spending road fund resources on agricultural issues was preserved in 2007 and accounted for approximately 25%. It is planned that further BYR 590 bn will be transferred to the agricultural needs in 2008.<sup>29</sup> As a result, remaining resources covered only 68.8% of expenditures, planned in the program "Belarus Roads" for 2007. The direct consequence of this is that 84% of the main roads are operated with expired data of capital-repair.

Freight transportation issue can be divided into transit issue and operation of domestic carriers, as these are two main sources of income for national economy. Transit through Belarus is traditionally suppressed by high costs of transit, obligatory customs convoy, low roadside service and regular confiscations. However, two thirds of the transit from Europe to Russia goes through Belarus and its volume increased by 25% in 2007. This increase can hardly be connected to amendments in legislation that were passed in 2007. These changes were targeted first of all at the reduction of amount of cases of obligatory customs convoy. Resolution of Council of Ministers #381 from March 27, 2007 limits the number of products containing alcohol that need convoy. The edict 320 "On realization of freedom of transit concept in Belarus" also should have simplified customs procedure, but the main outcome of this edict was the increase of convoy cases due to disputable understanding of some paragraphs of the edict.<sup>30</sup> The number of trucks reaching the Russian border under convoy increased 1.8 times in 2007<sup>31</sup> and only 15% of them were exposed to customs convoy in Russia.

Other changes in legislation, including Customs code (that came in force on July 01, 2007), edict 129 "On some measures of international freight enhancement", introduced electronic customs declaration and electronic preliminary notification to customs authorities, and the "temporary import regime" for leased imported vehicles used in international transportation (under condition that the carrier has bought earlier the same amount of Belarusian trucks). The new legislation did not bring sizeable improvement to the freight transportation market. It continued to be depressed by unfavorable regulations regarding the import of heavy trucks: The import duty for trucks older than 3 years is prohibitively high (EUR 2.2 per cm<sup>3</sup> of the engine). Other factors undermining the development of freight transportation are high tax burden; lack of qualified drivers as they move to Lithuania, Poland, Russia, where they receive wages times higher than in Belarus; high costs of visas<sup>32</sup> exceeding in total EUR 3 m

<sup>27</sup> For more detailed analysis see IPM Research Center (2007) Belarus Infrastructure Monitoring 2007, Minsk <http://www.research.by/eng/bim/2007/>.

<sup>28</sup> Credit sources of BYR 117.2 bn were used to finance maintenance of main roads in 2007. Besides, credit of BYR 240 bn was attracted to finance repair works at M1/E30 road.

<sup>29</sup> See "Ekonomiceskaya gazeta" #1(1119) on January 04, 2008 [http://www.neg.by/publication/2008\\_01\\_04.html](http://www.neg.by/publication/2008_01_04.html).

<sup>30</sup> For example Chapter 3 Article 1 states that documents with additional information, needed for customs procedure, should be presented within 6 hours. Otherwise the goods should be convoyed.

<sup>31</sup> See "Kompas expeditora i perevozchika", #6, 2007.

<sup>32</sup> Besides there are costs, related to unproductive time losses. This situation is worsened by the fact, that Belarusian drivers can receive only half-year visas. (See "Kompas expeditora I perevozchika", #1, 2008).

per year; Russian policy to decrease the number of licenses, issued to Belarusian carriers by 10% each year.

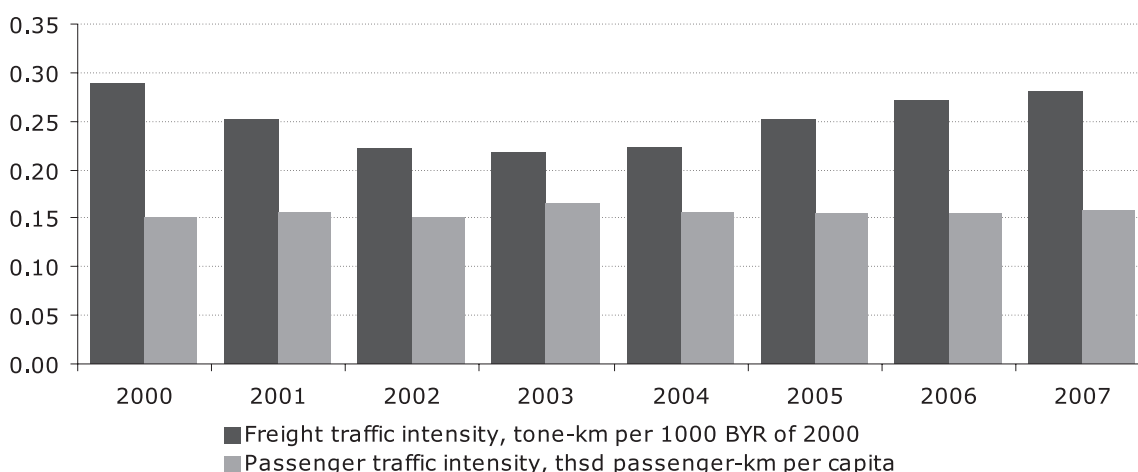
Despite unfavorable circumstances the volume of freight transportation increased by 11.7% and its intensity grew by 3.2% (Figure 5). Export of freight transport services rose by 36%<sup>33</sup> which is only partially explained by tariff growth: As shown in Table 8 international freight tariffs grew by 7.4%. The domestic freight tariffs growth rate (11.6%) slightly exceeds the CPI level.

The policy of forcing out private carriers from the passenger transportation market continued. The legislature failure to divide the functions of principal (contractor) from operator remains unsolved. State transportation companies are set to fulfil operator functions and makes fair competition between them and private sector providers impossible. Financing of operators remains unclear. Legislation, including the new law "On Auto Transport and Auto Freight" does not provide an answer to this question. Meanwhile there are cases in which private carriers are forced to fulfil this function.<sup>34</sup> In addition, edict 760<sup>35</sup> seriously hampered private passenger transport perspectives. It forced private carriers either to close, or to register drivers as separate individual entrepreneurs, which is costly, or to reregister as a legal entity (usually as a private unitary enterprise). Latter usually makes business suffer losses due to high taxes. Despite the presence of these barriers, volume of passenger transportation by private carriers increased by 5.3% in 2007 and accounted for 9.2% of all passenger traffic (8.9% in 2006). The overall passenger traffic and its intensity grew slightly by 2.2% by 2.5% respectively. Passenger tariffs traditionally grew faster than average price level: Suburban tariffs increased by 13.3% and intercity by 13.2% (with a CPI of 8.4% in 2007).

Regardless of significant growth of volumes and tariffs, auto transportation suffered losses in 2007 of 1.9% (in 2006 losses were 0.5%), proving inefficiency of the sector and the need for reforms.

**Figure 5**

Auto transportation intensity



Source: own calculations.

<sup>33</sup> See "Kompas expeditora i perevozchika", #1, 2008.

<sup>34</sup> See "Econimicheskaya gazeta" #15(1133), on February 26, 2008 [http://www.neg.by/publication/2008\\_02\\_26\\_9417.html](http://www.neg.by/publication/2008_02_26_9417.html).

<sup>35</sup> Edict 760 on December 29, 2006 introduced changes in legislation, that regulates entrepreneurial activity.

**Table 8**

Price indices of auto transportation services, yoy

	2001	2002	2003	2004	2005	2006	2007
Freight transportation, incl	163.6	137.2	138.4	125.8	111.6	108.7	110.7
international	—	—	—	—	106.8	106.7	107.4
domestic	—	—	—	—	113.7	109.6	111.6
Passenger transportation							
suburban	172.5	213.7	151.0	150.4	123.3	119.6	113.3
interurban bus	168.5	175.3	136.7	135.9	126.2	113.5	113.2
Consumer price index	161.1	142.6	128.4	118.1	110.3	107.0	108.4
Service price index	216.8	193.4	161.9	121.2	112.0	113.2	108.8

Source: Ministry of Statistics and Analysis.

### 3.2.2. Reform agenda

A sustainable development of the road network implies the improvement of financing of road construction and maintenance. The room for improvement is to abandon the financing activities not related to the road industry on the costs of the road fund. The natural monopoly operator Belavtodor should be given more independence from the Ministry of Transport to ensure that decisions on financing road construction and maintenance are less influenced by the transport lobby. While the turnover tax on road users is abolished starting from 2008, it is necessary to revise the sources of the road fund (i.e., by increasing the share of fuel excises accumulated in the fund). Road funding can be improved also by increasing transit freight volumes. Latter is possible only in case of creating more attractive environment. In particular, number of cases of obligatory customs convoy should be decreased; besides, tariffs for this "service" should be reduced to the level just covering related costs.

High import duties on vehicles and high tax burden in general hamper competitiveness of Belarusian carriers compared to carriers of other countries. To make it a playing level field, it is necessary to lower the duties on imported trucks. At the same time it is equally important to start the restructuring and privatization of state-owned trucking companies.

The government has to ensure equal treatment of private providers and public companies (including the same requirements for the technical characteristics of vehicles, the use of cash registers, equal access to routes etc) in order to further develop urban passenger transportation markets. It should legislatively separate the roles of contractors and operators of transportation services. The right to operate the market should not be granted to companies providing transportation services. Instead, a regulatory body should be established independent both from state administration and service providers. Regional councils should not be involved in regulating the tariffs of private firms. It must also be ensured that transportation companies pay their 'fair share' to the local road funds in a transparent manner. It is also necessary to decrease the tax burden on private carriers, as their transition to legal entities is accompanied by increase in number and volume of tax payments. Calculations of the trade union "Sadruzhnast" shows that unified tax levied on sales volume should be decreased for private passenger carriers from 10% to 5%.

Since all public transportation companies now operate at a loss, the government needs a strategy for their restructuring. If the losses are incurred because of government intervention (rather than organizational inefficiencies) these losses should be reimbursed from the public purse. A first step would be to sell off all freight transport vehicles and other redundant assets since private sector firms provide the major part of the overall volume of service. A considerable part of the redundant assets could be sold to private transportation companies.



### 3.3. Telecommunications

#### 3.3.1. Progress in 2007

The Belarusian telecommunications sector did not experience any considerable changes in 2007 in terms of regulation on performance. An exception is the sale of the state share in the mobile telecommunications operator Mobile Digital Communications (MDC) Ltd. This sale could have resulted from the difficult economic consequences of natural gas prices increase for the Belarusian economy, and was not a sign of acknowledgement of the necessity of market reforms in the sector.

The sector continued operating under the Law "On Telecommunications" (2005), as well as the state Program of Telecommunications Development in Belarus for 2006-2010, and the State Program of Rural Sector Development for 2005-2010.<sup>36</sup> The Draft of the Law "On Information, Informatization and Protection of Information" and amendments to the Law on "Telecommunications" (aimed at further liberalization in the sector and elimination of cross-subsidies) were prepared but not adopted in 2007. The last year was also characterized by the expansion of broadband Internet connection services, expansion of telecommunications channels to the rural areas, increase in the number of mobile connection subscribers, decrease in the mobile communications, and Internet connections' tariffs.

Existing legislation preserves the monopoly status of Beltelecom<sup>37</sup> in the telecommunications sector, in particular for long-distance calls. Cross-subsidization in the telecommunications sector remains and allows Beltelecom to cover losses from local calls provision by the overrated tariffs for international calls and Internet connections. For example, the landline subscription fee for the population covers 41% of the Beltelecom costs, for legal entities – 64%, time rates for local calls cover 60% and 91% of the Beltelecom costs respectively. Tariffs for local calls increased by 7%, for long-distance calls – by 4.5%, but they did not surpass inflation (CPI=8.4% in 2007), nor the Service Price Index (8.8% in 2007). This indicates the absence of any substantial decrease in cross-subsidization in the sector in 2007 (Figure 6).

As the Ministry of Communications claims, if the telecommunication tariffs remain at the existing level and the monopoly of Beltelecom for external telecommunications is cancelled, Beltelecom could lose 20-30% of its existing income. Ministry's officials started to openly discuss different scenarios in case of Beltelecom's demonopolization. They acknowledged the necessity of restructuring, but also stated that this process will take time. Amendments to the Law on "Telecommunications" that aim to rebalance tariffs – decrease tariffs for international calls and increase tariffs for local calls, – were prepared in 2007, but have not been adopted yet. The Program of Telecommunications Development for 2006-2010 also aims at adjusting telecommunications tariffs to costs.

Profitability of the telecommunication sector somewhat decreased in 2007. The net profit of telecommunications companies accounted for BYR 613.5 bn, which is

<sup>36</sup> Resolution of the Council of Ministries of the Republic of Belarus №1395, dated October 23, 2006 "On the Ratification of Program of Telecommunications Development in the Republic of Belarus for 2006-2010". Law of the Republic of Belarus №45-3, dated July 19, 2005 "On Telecommunication". Edict of the President of the Republic of Belarus №150, dated March 25, 2005 (with changes from January 12, 2007) "On the State Program of Rural Development for 2005-2010".

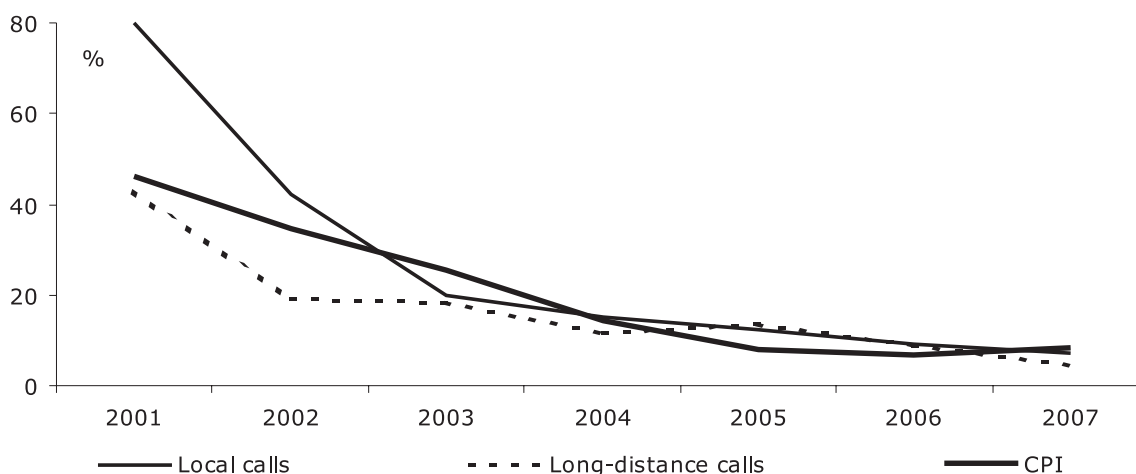
<sup>37</sup> Beltelecom belongs to the Ministry of Communications and Informatization and operates under its direct supervision. Beltelecom is the "national telecommunications operator", implementing state policies in the sector. Beltelecom's monopoly applies to external telecommunications as well as the distribution of international traffic for the independent private operators. For example, all mobile operators that provide international calls are obliged to rent Beltelecom's network channels.



a decrease by 3.5% from 2006.<sup>38</sup> Still, the sector in general is highly profitable<sup>39</sup> despite the government's interference in its operations (Table 9). Overall Belarusian economy's profitability was 13% in 2007. Beltelecom's profitability is lower than the overall sector profitability of 15% (e.g. mobile operators, several Internet providers), since the company is overloaded with social responsibilities. According to the Ministry of Communications and Informatization data, profitability of the organizations belonging to the Ministry (primarily Beltelecom) accounted for 17.3% in 2007.

**Figure 6:**

Annual Growth of Telephone Communication Tariffs for Households and CPI



Note. Indices, end of period cumulative.

Source: Own calculation based on data from the Ministry of Statistics and Analysis.

**Table 9:**

Profitability of telecommunication services (in %, 2000-2007)

	2000	2001	2002	2003	2004	2005	2006	2007
Telecommunications sector	23.6	12.3	17.0	13.5	26.9	37.5	45.1	40.4

Source: Ministry of Statistics and Analysis.

Landline phone density reached 38.4 telephones per one hundred persons, and the number of landline phones increased to 3.6 m in 2007. The State Program of the Rural Sector Development for 2005-2010 aims to cover all rural areas with landline or mobile communication networks by 2010. Beltelecom continued stringing fiber-optic cables to rural areas, which allowed further installing of landline phones, and gave the opportunity to provide broadband Internet connection services. Moreover, Beltelecom started to introduce Wireless Local Loop (WLL) technology in the remote rural areas in 2007 to extend telecommunications to those areas where stringing of land cable was impossible or economically unreasonable (the number of WLL terminals comprised 3.5 thsd).

The number of mobile phone users in Belarus is currently twice as high as the number of landline phone users. During 2007 the number of mobile subscribers increased to about 7 m – around two thirds of total population. The mobile communications' sector is rapidly developing, with mobile networks' penetration rate increasing to about 70% of the

<sup>38</sup> In 2007 inflation was 8.4% implying that the sector's profitability as a whole was declining in real terms.

<sup>39</sup> Profitability of telecommunication services is calculated as the ratio of the profit from sales of telecommunication products and services to the prime cost of products and services sold.

total population.<sup>40</sup> Although various subscribers choose more than one mobile operator simultaneously (about 10% of subscribers), the number of population accessing mobile services increased. According to the state program, the number of mobile subscribers should reach 8 m in 2010. Increasing competition between mobile operators for the existing subscribers already takes place, although the mobile communications market is not saturated yet. Average tariffs decreased by 6.6% by the beginning of 2008.

Any substantial changes in the regulations of the mobile communications market, redistribution of market shares and marketing policies of mobile operators did not occur in 2007. The main players in the mobile communications' market remained the same: MDC<sup>41</sup>, MTS<sup>42</sup>, BeST<sup>43</sup>. The largest market share belongs to MTS with about 53%, followed by MDC with 43%. Both companies work in similar market segments and compete for the same customer groups.

In August 2007 the government's share (51%) in MDC was sold to the second owner Samaui Brothers Telecom (SB Telecom) for more than USD 500 m, and was later resold to Telecom Austria Group (70%), with 30% option to be realized by this company by 2010. This transaction was not entirely transparent, and supposedly was conducted to attract capital to the country after economic difficulties in the economy as the result of natural gas price increases. The change of MDC owner has not brought any feasible changes to the sector yet.

Government-imposed social obligations of mobile operators were kept in place during 2007. Mobile operators with state ownership are obliged to build connection networks and introduce social tariff plans for "agro-towns" (rural areas), as stated in the State Program of the Rural Sector Development for 2005-2010. Mobile connections in the rural areas do not compensate the costs of mobile operators. Operators provide mobile communications' services in these regions to fulfill state policies, to further extend telecommunications' coverage of the territory, and to provide improved services to existing subscribers.

Last year was largely characterized by the intense development of Internet connection technologies in the country, especially WiFi and broadband. The number of Internet users in 2007, according to the Ministry of Communications data, accounted for about 3.3 m (which corresponds to about 30% of population). As stated in the UN Human Development Report 2007/2008<sup>44</sup>, the number of Internet users in Belarus in 2005 was 347 per 1000 inhabitants, (152 in Russia, 97 in Ukraine) thus indicating high propensity to use Internet in Belarus, compared to other countries in the region, as well as other highly developed countries.

Beltelecom remains the primary Internet provider in Belarus, next to 150 other independent Internet service providers. All external traffic goes through a channel con-

<sup>40</sup> In comparison, mobile penetration rate amounted to 60% in 2006, 40.9% in 2005 and 24.2% in 2004.

<sup>41</sup> By the end of 2007 Mobile Digital Communications (MDC) Ltd. (trade marks Velcom, Privet) had 3 m subscribers. Velcom had 2,364 network stations, radio coverage of 86% of the territory with more than 96% of the population. International roaming was available in 144 countries. Owners: Samaui Brothers Telecom (SB Telecom) resold MDC to Telecom Austria Group (70%) with a 30% option to be realized by 2010.

<sup>42</sup> By the end of 2007 Mobile TeleSystems (MTS) Ltd. had 3.7 m subscribers. It also possessed 3,258 network stations, with 89% radio coverage of the territory (96% of the population). International roaming was available in 142 countries. The owners are Beltelecom (51% of shares) and Mobilnye Telesistemy (49%).

<sup>43</sup> By the end of 2007 BeST had 181.6 thsd. subscribers, with 324 network stations, 24% radio coverage of the territory with 61% of the population. The founders are Beltelecom (25% of shares) and NPO Agat (75%).

<sup>44</sup> [http://hdr.undp.org/en/media/hdr\\_20072008\\_en\\_complete.pdf](http://hdr.undp.org/en/media/hdr_20072008_en_complete.pdf).

trolled by Beltelecom. The most popular Internet access mode in the country in 2007 remained dial-up, provided primarily by Beltelecom. Beltelecom in its marketing policies aims to refocus Internet users from the dial-up to the broad band Internet connection, ADSL (Asymmetric Digital Subscriber Line) and WiFi in particular. Among the Internet users in Belarus, broadband connection amounted to 170 thsd in 2007 (about 5% of all connections). About 67% of the broadband Internet connections' market in 2007 belonged to Beltelecom (with the trademark byfly).

An overall decrease in tariffs for Internet connections (various types) provided by Beltelecom amounted to 40% in 2007. This had a feasible effect on other operators depending on Beltelecom's policies. As a result, average prices for the broadband (ADSL) Internet connections of various providers decreased by 25-40% and 30% for leased line in 2007. Reasons could be competition in the market, decreasing costs, better fit between costs and revenues and intention to bring Internet tariffs closer to international standards.

Belarusian legislation allows the only IP telephone connection channel through Beltelecom. Thus, this part of the telecommunications market is also centralized. As a result, official IP connection is very expensive – tariffs are only 25-30% lower than those for international calls, which are unjustifiably high in Belarus.

Thus, as in the previous year, among the main priorities of the telecommunications sector development in Belarus is the introduction and the expansion of up-to-date telecommunication technologies. At the same time basic telecommunication services within the declaratory socially-oriented state policy should be provided at low cost at the expense of other services.

Despite the monopoly status of Beltelecom in the telecommunications market it simultaneously provided cheap landline calls, and considerably decreasing tariffs for Internet connection, although tariffs for long-distance calls remain unjustifiably high.

Thus, developments in telecommunications sector in 2007 were characterized by the following features:

- Persisting social orientation in the government's policy in the sector and cross-subsidies;
- No substantial steps in further telecommunications' market liberalization;
- Sale of the government's share in one of the mobile operators to a foreign investor, that did not bring any considerable changes to the sector;
- Further development of landline and mobile communication networks, Internet access in regional towns and rural areas;
- Increasing quality and spectrum of telecommunications services; decreasing tariffs for Internet and connections.

### **3.3.2. Reform agenda**

No substantial regulatory changes in the telecommunications sector have been observed in the last years. As a result, policy recommendations remain the same. Active government's interference in the decision making at micro and macro level constraints the sector development. Changes should focus on the creation of competitive and attractive investment environment. In this regard the following telecommunications sector reforms are important:

- Monetization of benefits for separate population groups. Social benefits should be provided in the form of direct money compensations.
- Cross-subsidization removal for local connections at the cost of long-distance connections. Prices should be set at cost covering levels. This step would facilitate com-

petition, lower tariffs for long-distance calls, increase attraction for investments, bring conformity to international norms in telecommunications regulation, and facilitate integration of the country in the world's telecommunications market.

- Pursuing profitability and operational efficiency in the telecommunications sector. Companies should provide social benefits only if these are directly compensated from the state budget.
- Removing the monopoly on the delivery of long-distance, international calls and IP-telephony services. Access of private companies to these segments will foster price competition and ensure a dynamic development of the fixed telephony sector.
- Corporatization of Beltelecom in order to remove the state's monopoly in the sector. This step will provide transparency of its activity and will increase management's motivation and efficiency within the sector.
- Creation of an independent regulator in the telecommunication sector shielding market participants from political interventions in order to ensure long-term market stability and a level playing field. The regulator should also ensure market discipline while protecting consumer interests and facilitating open access to the core infrastructure of the network. The independence of such a body from direct political intervention has often been cited as means of building trust among investors in a newly liberalized sector.

## **3.4. Gas**

### **3.4.1. Reforms in 2007**

The natural gas sector in Belarus is dominated by the state-owned enterprise Beltopgaz, which is managed and controlled by the Ministry of Energy of Belarus, and JSC Beltransgaz. While Beltransgaz is responsible for natural gas transportation to Belarus and for managing natural gas transit, Beltopgaz deals with distribution and retail sales of natural gas to final consumers inside Belarus.

During 2007 the gas sector in Belarus faced some changes. Nevertheless, most of them concerned ownership issues or new prices for imported natural gas and did not change the principle functioning of the Belarusian natural gas sector. The considerable price growth of natural gas imports resulted in a decrease of the mark-ups in the sector and higher prices for consumers, but did not catalyze structural changes.

According to the five-years Beltransgaz-Gazprom contract (signed on December 31, 2006) Belarus bought Russian natural gas for USD 100 per tcm (a 2.14 times increase compared to 2006), for cash-payment only (no in-kind or barter schemes). The discounts from a 'market' price were also determined: in 2008 – 67%, in 2009 – 80% and in 2010 – 90% from the market price. Also, parties agreed that Gazprom would buy 50% of Beltransgaz shares for USD 2.5 bn (also only in cash) by equal tranches (12.5%) over a four-year period.

Indeed, at the beginning of the year the parties met some difficulties and misunderstanding. The joint venture was not set up as the parties involved had different views on its functioning. In order to decrease the final price for industries, the Belarusian side wanted to decrease Beltransgaz's set-up by USD 18 per tcm. The Russian side opposed this, as it would considerably decrease the profitability of Beltransgaz, while a market valuation of Beltransgaz (USD 5 bn) was made with a high mark-up. In turn, the Belarusian side insisted on increasing the use of Beltransgaz transit capacities (before, more than 60% of all natural gas transit was made through the Russian part of the Yamal-Europe pipeline).

In April 2007, a meeting of the Board of Directors of Gazprom J.S.C. was held where the willingness to purchase 50% of shares of Beltransgaz over the period of 2007–2010 was confirmed. According to the statement made by the Deputy Chairman of Gazprom, Mr. V. Golubev, his company has agreed to cut a mark-up of Beltransgaz over 2007–2010. The parties earlier agreed that Belarus would pay USD 55 per tcm for imported natural gas (instead of USD 100) during the first half of the current year, and the difference would be paid during the course of the second half. Nevertheless, the Belarusian government continued to delay the signing of a sales contract. It wanted to tie the sale of Beltransgaz with obtaining a loan of USD 1.5 bn from the Russian government. However, Russian government found the reasons for provision of this loan unconvincing.<sup>45</sup>

On May 18, 2007, Gazprom and the Belarusian State Committee for Property<sup>46</sup> signed a contract for the sale of 50% of Beltransgaz stock in accordance with the conditions agreed upon before. The Belarusian party assumed that the shares to be sold to Gazprom not to be alienated encumbered or pawned until the deal is finalized. Also, some additional conditions of joint venture operation were agreed on: An increase of a wholesale mark-up of Beltransgaz on natural gas supplied to final consumers in Belarus (up to USD 11 per tcm by 2011 if Beltransgaz's transit amounts 52% of all transit through Belarus), and of transit tariff rates (from USD 1.45 to USD 2 per tcm for 100 kilometres by 2011). Also, the Belarusian party agreed not to adopt a 'golden share' arrangement for that enterprise.

By August 2007, Belarus, due to paying half of the price agreed (in the first half of the year, Belarus paid just 55% of the value of natural gas supplies), accumulated a debt of USD 456.2 m. The debt was not paid in time, and government started to negotiate the restructuring and drawing up of a loan from Russia of USD 1.5 bn to pay for natural gas supplies. However, parties did not reach an agreement. As a result, Gazprom notified the Belarusian Government about the reduction of natural gas supply by 45%, starting August 3. In response, Belarus paid USD 190 m. During August the rest of the debt was paid and the payments of the second half of the year were in time.

For the first time in 2007 Belarus consumed less (20.6 bcm) than planned (21.2 bcm). This decrease was caused mainly by warm weather and partly by the efforts devoted to energy saving in the country. In addition, the maximum amount of transited natural gas was reached. In 2007 Belarus transited 49.5 bcm, which is 112% compared to 2006. 31.1 bcm were transited through the Russian part of the Yamal-Europe pipeline (63%; 31 bcm in 2006) and 18.4 bcm were transited by Beltransgaz (13 bcm in 2006, i.e 1.4 times more).

The price of natural gas for Belarusian imports was set at USD 100 per tcm in the contract (Figure 7). According to this contract, transit prices grew compared to the previous year: USD 1.45 per tcm of natural gas per 100 km through the Beltransgaz pipeline (0.75 in 2006) and USD 0.43 per tcm via the Russian Yamal-Europe pipeline (0.36 in 2006).

As mentioned above, during the first half of the year, Beltransgaz paid only 55% of consumed natural gas. Nevertheless, by the end of the year Beltransgaz fully paid for total consumption in 2007 (100.4%). There was no current external natural gas debt to Russian suppliers

The situation with respect to final consumers' payments improved. Almost all payments for natural gas were made in cash – 99.9% (in 2006 – 96.3%). Although

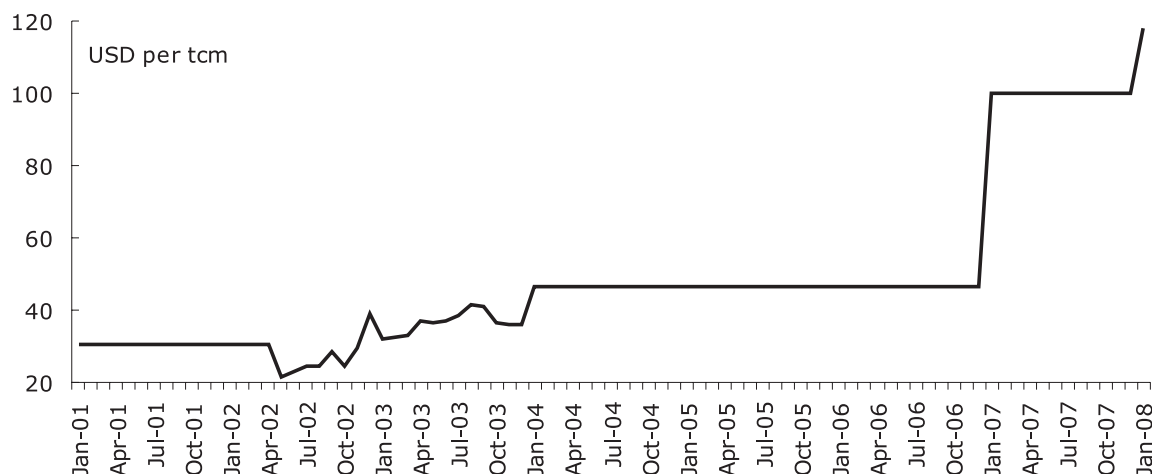
<sup>45</sup> Such stabilizing credit was granted by the Russian side only in 2008.

<sup>46</sup> This agency of the Ministry of Economy is formally responsible for all privatization deals in Belarus.

some debts remain, the total debt of internal consumers fell by 20% or by USD 26.73 m during 2007 (Table 10). The electricity sector and some industrial and agricultural enterprises remain to be the main debtors of the natural gas sector. The electricity company Belenergo was not able to pay the arrears of previous years due to its difficult financial state and the continued existence of its own debtors for consumed electricity.

**Figure 7:**

The development of prices for imported natural gas from Russia, 2001-2007



Note. Without VAT (18%).

Source: The Ministry of Statistics and Analysis.

**Table 10:**

Arrears for natural gas (USD m)

	As of January 1, 2003	As of January 1, 2004	As of January 1, 2005	As of January 1, 2006	As of January 1, 2007	As of January 1, 2008
Total, including	874.11	708.16	248.66	186.05	131.03	104.3
Arrears of domestic consumers	774.63	594.48	247.51	186.05	131.03	104.3
External consumers	99.48	113.68	—	—	—	—

Source: The Ministry of Statistics and Analysis.

Despite the 2.14 times increase in the import price, the price for natural gas for the majority of consumers increased less. Since January 1, 2007 the price for natural gas for the majority of enterprises was set at the level of BYR 257,460 without VAT (USD 120) per tcm, i.e an 88% increase (in 2006 the enterprises paid BYR 137,010 or USD 64). However, some preferential prices at a level of about 50-80% of the official price were kept for some selected enterprises (Belenergo, some state plants of chemistry, peat, light, porcelain and other industries).

Apart from the considerable cut in Beltransgaz's mark-up (in order to keep prices for consumers as low as possible), Beltransgaz made non-tax contributions to the Belarusian energy ministry's innovation fund, accounting for 19% of the cost of its products. This considerably decreased its profitability, which invoked strong objec-



tions from the Russian side.<sup>47</sup> During 2007, after having paid into the state innovation fund, Beltransgaz had a minimal profitability of around 1%, which makes payback of Gazprom's USD 2.5 bn investments in Beltransgaz illusive.<sup>48</sup>

During the year Beltransgaz increased its investments in reconstruction and modernisation by 113% (BYR 212.6 bn) and met all other governmental indicators.<sup>49</sup>

Natural gas tariffs for households increased from January 1, 2007 by 20% and amounted to BYR 242,000 per tcm (USD 113).<sup>50</sup> Keeping in mind the fact that household tariffs grew only by 20% while the price for imported gas more than doubled, one may conclude that in general, the negative cost recovery for all natural gas consumed by households (96% in 2006), considerably increased.

### 3.4.2 Reform agenda

The crucial importance of natural gas to the Belarusian economy requires a stable and affordable natural gas prices and a secure natural gas supply. On the other hand, required investments in infrastructure and equipment should – at least partially – be financed by private investors. This is in particular true given the limited availability of public funds. Inevitably rising prices for imported natural gas enhances the importance of possible costs reduction and efficiency increases within the sector. Hence, a natural gas industry oriented policy should be directed towards a sustainable, profit-oriented development whilst providing sufficient investment incentives to the private sector.<sup>51</sup> In this context the following changes seem to be required:

- Tariffs for final consumers must become cost-reflective for households and for industries without allowing for cross-subsidization. Prices for all industrial consumers should be equal and costs should account for investment needs;
- If providing social privileges to some groups of households remains a priority of the government, it should be dealt with in a transparent manner. Here, targeted aid or direct income subsidization might be considered;
- Efforts to improve payment discipline must be continued without any exceptions across all consumers groups, using economic as well as administrative measures;
- Significant and deep restructuring of Beltopgaz and Beltransgaz is needed. Both companies are overburdened with non-productive assets, and (although in part already officially corporatized) are not independent to make financial and investment decisions. Restructuring and corporatization also includes the necessity and the possibility to divest all ancillary enterprises not related to the core business. The current policy of implementing investments for achieving different social and political goals should be stopped.
- In order to avoid cross-subsidization between different activities within a single firm (a particularly severe impediment for the development of compe-

<sup>47</sup> According to Russian representatives, the contribution requirement is a serious infringement of Gazprom's interests and runs counter to a Belarusian-Russian interstate agreement on economic cooperation signed on March 23, 2007.

<sup>48</sup> Despite the fact that JSC Beltransgaz is a public company, all economic and financial data of the company are closed. Transparency of the company and sector in general remain be the problem.

<sup>49</sup> <http://www.btg.by/proizvodstvo/>.

<sup>50</sup> The resolution of the Council of Ministries # 4, signed on January 3, 2007.

<sup>51</sup> For more detailed suggestions for reforms in the natural gas sector see RC IPM-GET Policy Paper 15/04 Gas Sector Restructuring in Belarus: Necessity and Directions, <http://www.research.by/pdf/pp2004e15.pdf>

tition between different activities), full corporatization must include a strict legal separation (unbundling) of network operations and natural gas supply (retail) activities within each company, and for the case of Beltransgaz also a separation from international transit and domestic transmission. Furthermore, in order to ensure creditworthiness, all companies should provide a sufficient degree of transparency, e.g. through regular independent audits according to international standards.

- In order to avoid excessive interference, the sector needs a regulator that is independent of both the natural gas industry and government. This body should define the rules of the game, and consider the interests of all groups involved. Among its first actions, the regulator should change the tariff policy for final customers which will bring more competition into the sector.

## 3.5 Electricity

### 3.5.1 Reforms in 2006

State owned Belenergo<sup>52</sup> generated 31.8 bn kWh (which is 99.7% of the amount in 2006) and imported 4.34 bn kWh (79.3% of the amount in 2006). Imports mainly came from Russia (2.65 bn kWh), Lithuania (0.91 bn kWh), and Ukraine (0.69 bn kWh).

The payment discipline remained strict; barter schemes have been almost liquidated: 98.4% of all payments were made in cash (97.9% in 2006). The collection rate for electricity paid by final consumers amounted 100.5% on average (consumers paid back part of the previous year's debts). Although the situation regarding payments within the country remained difficult, the existing arrears of the final consumers to Belenergo were reduced by 30% or by USD 70 m (Table 11). Overdue debts for electricity represented 52% of all overdue debts for fuel resources. The main debtors of Belenergo are the companies of the Ministry of Agriculture (accounting for 60% of all debts to Belenergo).

**Table 11:**

Debts for electricity consumption (USD m)

	As of January 1, 2003	As of January 1, 2004	As of January 1, 2005	As of January 1, 2006	As of January 1, 2007	As of January 1, 2008
Total, including	812.6	721.38	331.48	293.92	222.52	152.48
Domestic consumers	758.59	692.25	328.62	293.92	222.52	152.48
Foreign consumers	54.01	29.13	2.86	—	—	—

Source: The Ministry of Statistics and Analysis.

In 2007, tariffs for electricity for industrial consumers increased two-fold – by 20% since January and by 12% – since July and amounted to US cents 10.6 per kWh (Table 12). This was mainly driven by an increase in price for imported natural gas (96% of electricity are generated by burning natural gas) and other costs. At the same time, some preferential pricing persisted. The list of companies eligible for reduced tariffs was compiled by the Ministry of Economy and included main tax payers such as the Belarusian metallurgical plants, Svetlogorsk PO Khimvolokno, Grodno PO Khimvolok-

<sup>52</sup> The Belarusian power system (enterprise Belenergo) consists of six independent regional companies (one for each oblast – oblenergos).



no, Grodno-Azot Inc., Minsk Bearing plant Inc., JSC Beltransgaz and its affiliates, enterprises of the Beltopgaz and some other energy intensive companies.<sup>53</sup> Agricultural consumers – as the most problematic payers – continued to delay payments for the debts of previous years (under the condition of full and on-time payments for current consumption). However, such privileges usually do not help agricultural enterprises to improve their financial state and pay back overdue debts.

Electricity tariffs for households were revised once during 2007 and since January 01, 2007 amounted to US cents 5.23 per kWh (a 20% growth).<sup>54</sup> As a result, cost coverage, which had amounted to 92.6% by the end of 2006, decreased considerably (all data on costs and cost coverage are closed).

**Table 12:**

Electricity production costs and prices for different groups of consumers  
(US cents per kWh)

	As of January 2005	As of January 2006	As of March 2006	Since January 2007	Since July 2007
Costs	3.50	4.40	4.53	5.86	na
Prices for:					
State financed organizations	4.02	4.90	5.91	7.15	10.2
Industry	6.02	6.70	7.78	9.21	10.59
Households	3.45	4.09	4.36	5.23	5.23
Agriculture	2.66	2.90	3.56	4.32	5.18
Other enterprises	6.02	6.70	7.78	9.21	10.59

Source: The Ministry of Energy.

In October 2007 the new "State program on production assets of Belarusian energy system modernisation, energy saving and an increase of the local fuels share in the country till 2011" was adopted.<sup>55</sup> The previous State Program was adopted in 2005. Nevertheless, according to the official point of view, the old concept is outdated, as the parameters of energy cooperation between Belarus and Russia had changed. Therefore, to achieve the goals of its State Program, Belarus needs to reduce its energy dependence on Russia.

Among the main goals of the new Program are:

- To reduce the share of natural gas in the fuel balance of the country from 70% to 50% by 2020, and in electricity generation – from 95% to 75%;
- To reduce GDP energy intensity by 30% by 2010 (while GDP is supposed to grow by 1.5 times) and by 60% by 2020;
- To deepen diversification of fuels used in Belarus (in particular, there are plans to build three coal stations and one nuclear power station);
- To increase the share of local fuels in electricity generation from 25% to 30% by 2011.

According to the plans of the government, the new State Program would cost USD 31 bn: USD 19 bn are planned to be invested in the energy system (reconstruction, modernization of the current assets, the nuclear power station construction, etc.); USD 12 bn are expected to be invested in energy saving measures. It is planned that

<sup>53</sup> Altogether, there were more than 60 enterprises in this list.

<sup>54</sup> The resolution of the Council of Ministers #4 on January 3, 2007.

<sup>55</sup> Edict of the president #575 on October 15, 2007.

the main sources for such investments would be credits of Belarusian and foreign banks and internal sources of energy enterprises. However, the government does not intend to increase tariffs (first of all, for households and preferential customers) and reduce cross-subsidization. Therefore, one may safely assume that the internal sources of the energy enterprises for financing such ambitious investments would be very limited indeed.

### 3.5.2. Reform agenda

Inevitable price increases for imported Russian natural gas requires urgent measures to prevent sharply escalating electricity costs and tariffs. Industrial tariffs are already set at the level close to Poland or Baltic countries while the price for natural gas remains 2-3 times lower. Modernizing some of the power plants in order to use domestic/renewable energy sources is useful, but can only provide a partial solution. A nuclear power station (if a decision for building it is made) will not be active before 2018.

The tariff policy requires substantial changes. Industrial tariffs are too high (significantly above cost) due to cross-subsidization, privileged pricing for some industrial consumers, debts, etc., while tariffs for households are below cost. The policy of eliminating cross-subsidies has been inconsistent and incomplete, and a complete elimination of household cross-subsidization has not been achieved.

Subsidized energy prices for other groups, mostly industrial and agricultural enterprises remain an important issue. Moreover, a tariff policy vis-a-vis privileged industrial enterprises remains unpredictable and subject to political influence. Tariff eligibility criteria are often vague, leading to misallocations of resources, rent seeking and inconsistent information for future planning. All this creates numerous distortions to the market.

Furthermore, electricity tariffs are also very likely below their long-run marginal costs.<sup>56</sup> Hence, the electricity sector operates inefficiently with large deferred investments. There seems to be no need for further reduction in profits of energy enterprises. Moreover, the existing cost plus practice of tariff formation does not provide adequate cost-cutting incentives to the energy sector.

The following measures are needed to enable the electricity sector to provide the desired outcomes:

- Tariffs should be set at cost-reflecting levels without permitting cross-subsidization, and at equal levels for all consumers without any price privileges;
- If providing social privileges to some groups of households remains a priority of the government, it should be dealt with in a transparent manner with the help of targeted aid or better via direct income subsidization;
- An independent regulator creating incentives for cost cutting should be established. The system should be transformed from a centrally planned into a self-developing market, where the state only guarantees that no single market actor or the state itself abuse market power;
- The policy of further and stricter hard budget constraints for consumers should be continued. It is therefore reasonable to permit non-paying consumers, including public utilities etc., to be disconnected;
- Guaranteed third party access to the transport and distribution networks should be gradually opened on a clear non-discriminatory basis;

<sup>56</sup> For more detailed information on reforms in the electricity sector see RC IPM-GET Policy Paper 03/05 "Reforms in the Belarusian electricity sector: How to reduce costs and dependence on imported resources", <http://research.by/pdf/pp2005e03.pdf>.



- Corporatization and restructuring of all regional branches of Belenergo (oblenergos) and of all ancillary businesses should gradually start. This would make it possible to reduce the current 'politically fixed costs'<sup>57</sup> and increase management's motivation to cut costs.

Once these steps have been taken, the government will be in a position to address the next important issue, i.e. to increase efficiency within the sector (lowering costs). International experience shows several ways of improving efficiency within the sector through increasing competition and changes in motivating management (e.g. systems of pool or bilateral contracts).

---

<sup>57</sup> We call some costs 'politically fixed', because they could be reduced if it was politically possible. For example, enterprises cannot reduce the number of employees, as there exists an informal ban; many social objects or ancillary businesses cannot be separated, corporatized or privatized, etc.

## Appendix 1

### General description of the infrastructure indicators

This appendix presents a brief description of the criteria for scoring each indicator on a scale of 1 to 4.

#### 1. Commercialization and privatization

##### 1.1. Ownership

**1.1.1. Natural monopoly.** A natural monopoly is a network operator. A score of one means that the whole network is state owned; the score increases with an increasing share of corporatized, privatized and newly constructed private fixed networks in the total length of networks. The maximum score 4.0 is reached with private ownership of all networks.

**1.1.2. Potentially competitive business.** A potentially competitive business is an operator using networks to provide its services; it is a market related to a natural monopoly. A score of one implies that the businesses are part of the state owned natural monopoly. The score increases with separation, corporatization and privatization of existing operators, or with increased market penetration by newly established private agents. The maximum is reached when all the businesses are in private ownership.

**1.1.3. Ancillary business.** Ancillary businesses are concerned with network construction, its maintenance, inputs supplies, and social infrastructure. A score of one means that these businesses are state owned. The score increases with the degree of separation, corporatization and privatization, or with increases in new private establishments.

##### 1.2. Operation

**1.2.1. Natural monopoly.** A score of one is given when the natural monopoly is operated as a government department. The score increases with reorganization into an independent state agency or a company and establishment of an independent regulator. The maximum score is assigned if a private company manages the natural monopoly, subject only to an independent regulator, established by law.

**1.2.2. Natural monopoly planning and investment decisions.** A score of one implies political interference in business and investment decisions. The score increases as commercial objectives such as profitability and operational efficiency grow in importance. The highest score applies if network extensions and new investment projects are realized solely based on profitability considerations and reflect marginal social costs.

**1.2.3. Private sector participation in service contracts.** A score of one means that the private sector does not participate in construction, maintenance or rehabilitation, etc. The score increases with increasing participation in these activities by the private sector.

##### 1.3. Organizational structure

**1.3.1. Separation of natural monopoly and potentially competitive businesses.** A score of one means separation neither between the infrastructure and the service providers' managements, nor between the managements of different service providers. The score increases with unbundling of the industry. The highest score applies when different services are provided by separate private companies.

**1.3.2. Separation of ancillary businesses.** A score of one means no separation of ancillary businesses from the natural monopoly or potentially competitive businesses. The score increases with increasing degrees of separation. The maximum score is assigned when ancillary services for the natural monopoly and for potentially competitive businesses are supplied by the market.

**1.3.3. Decentralization.** A score of one implies no or minimal decentralization and increases with increasing decentralization. Decentralization is both regional and functional and implies autonomy of decision making at the regional level concerning tariffs and investments. The highest score is assigned when the industry is divided into competing regional operators.

## **2. Tariff reform**

### **2.1. Structure of tariffs**

**2.1.1. Political vs. regulated operators.** A score of one implies strong political interference in tariff setting. The score increases with declining political interference and its transfer from the central government to the corresponding government agency and finally to the regulatory body. The maximum score is reached for full cost reflective tariff setting by an infrastructure operator regulated by an independent regulator.

**2.1.2. Natural monopoly pricing.** A score of one corresponds to pricing below cost accompanied by a substantial amount of cross-subsidization. The score increases as the tariff approaches the long-run marginal cost reflecting cost covering levels, with cross-subsidization declining.

**2.1.3. Potentially competitive businesses pricing.** A score of one means a lack of cost reflective pricing. The score increases with markets becoming increasingly competitive and prices approaching market equilibrium levels.

### **2.2. Payments**

**2.2.1. Intra-industry payment ratios.** A score of one implies that arrears are constantly accumulating and transactions between companies within an industry are basically non-monetary. The score increases as monetary settlements are carried out and arrears approach zero.

**2.2.2. Final consumer collection rates.** A score of one means low revenue collection from final consumers (households, companies, state organizations) and constantly accumulating arrears. The score increases as progress with revenue collection is made and services are fully paid for.

**2.2.3. State indebtedness.** A score of one corresponds to growing arrears for state compensations to privileged consumers. The score increases as this indebtedness is reduced to zero.

### **2.3. State funding**

**2.3.1. Subsidies level.** A score of one means that some groups of consumers are heavily subsidized by the state in an explicit or implicit form. Both the depth of the subsidization and the distribution of subsidies are important. The government may pursue a constant practice of debt forgiving and restructuring. Abstention from implicit and explicit subsidies leads to improved scores.

**2.3.2. Subsidies procedure.** A score of one is assigned when the subsidies are directed to service suppliers and are provided in non-transparent ways. The score improves as the process becomes more transparent and income compensations replace price compensations.



### **3. Regulatory and institutional development**

#### **3.1. Effective regulatory institutions**

**3.1.1. Management selection of competitive businesses.** A score of one means that the management is appointed by state officials. The score increases when the management is elected by shareholders and reaches its maximum when the shareholders are private companies or individuals.

**3.1.2. Independence of regulator, insulation from political influence.** A score of one is assigned when a government department provides the service. The score increases as a state commission is introduced and an independent regulator is established. The highest score applies when an independent regulator acts according to law.

**3.1.3. Transparency of regulation.** A score of one implies an absence of legislation defining clear rules of the game for businesses, and the obligations of government bodies. The score increases with the development of legislation and its enforcement, including when the decision-making becomes public. The maximum score is reached when the performance of natural monopolies in an industry is regulated only by an independent regulator in accordance with law, and all decisions are disclosed.

**3.2. Access regulation.** A score of one means that the access right is arbitrarily determined by the state or the state-owned operator. The score increases as access is regulated by an independent regulator, later negotiated, and finally determined by market mechanisms.

## Appendix 2

### Explanations for the infrastructure indicator evaluations

#### **RAILWAYS**

##### **1. Commercialization and privatization**

###### **1.1. Ownership**

- 1.1.1. The basic rail network is 100% state owned. Rails linking enterprises to the basic network are owned by the enterprises. 2007: 1.3.
- 1.1.2. Passenger and freight transportation is 100% state owned. However, companies belonging to Belarusian Railways are separated and are independent legal entities. There are a number of private forwarding companies operating at the market. 2007: 1.3.
- 1.1.3. All ancillary businesses are state owned and constitute a part of Belarusian Railways, though they are divided into separated legal entities. 2007: 1.3.

###### **1.2. Operation**

- 1.2.1. Since May 2006 a natural monopoly Belarusian Railways is a department of Ministry of Transport and Communication. 2007: 1.3.
- 1.2.2. According to the statute of Belarusian Railways the primary objective is satisfying the needs of producers and of the population concerning transportation services. Achieving profitability is secondary to the primary objective. There is also a certain amount of state interference in the business and its investment decisions. 2007: 2.0.
- 1.2.3. There is private sector participation in service contracts. The tendering procedure is quite transparent including postings of announcements on the Internet. Nevertheless the scale of outsourcing has not yet reached satisfactory levels. 2007: 1.7.

###### **1.3. Organizational structure**

- 1.3.1. No separation of potentially competitive businesses from the natural monopoly operators has taken place so far. 2007: 1.0.
- 1.3.2. Ancillary businesses are independent legal entities within the structure of Belarusian Railways. The share of non-core businesses in the structure of Belarusian Railways is very high. They include 38 healthcare and education institutions. 2007: 1.3.
- 1.3.3. Belarusian Railways consist of 6 regional companies. Altogether the company unites 87 legal entities. 2007: 2.0.

##### **2. Tariff reform**

###### **2.1. Structure of tariffs**

- 2.1.1. Tariffs for domestic transportation services are set independently from the railways by the Ministry of Economy. Transit transportation tariffs are determined by international agreements. However, there is strong political influence on the tariff setting process, as they are believed to affect the standard of living in the country. 2007: 1.7.
- 2.1.2. According to law, tariffs should cover cost of the service provided and allow development of the railway network. As BR is both a natural monopoly operator



and a transportation services provider it is impossible to assess the percentage of revenues channeled into railway network maintenance. Though, there is a considerable amount of cross-subsidization especially towards suburban transportation (diesel and electric trains): it's the most loss-making (in 2007 revenues, excluding subsidies, covered only 30% of costs). Between 2001 and 2006 tariffs for suburban transportation grew faster than for other kinds of passenger and freight transportation, but this trend was put to an end in 2007. There are also cross subsidies between domestic and international freight transportation, but they are steadily decreasing. Domestic freight tariffs cover 70% of costs. 2007: 1.7.

- 2.1.3. Belarusian Railways consistently makes profits (the 2007 rate of return was 21.2%). Due to the distorted structure of tariffs, however, the amount of cross-subsidization is still very high. 2007: 1.7.

## **2.2. Payments**

- 2.2.1. A certain amount of indebtedness exists between the different enterprises within Belarusian Railways. 2007: 2.0.
- 2.2.2. Revenue collection for passenger transportation is 100%. Starting from December 20, 2007 concessionary tickets were abolished (which resulted in the increase of the indicator). Earlier a large percentage of consumers had privileges, especially on suburban transport: Privileged passengers constituted around 20% of all passengers transported. Free rider practices on suburban transport are common. Some firms that use freight transportation services are regularly indebted to Belarusian Railways. 2007: 2.3.
- 2.2.3. In practice the government covered only a slight margin of losses of Belarusian Railways caused by providing privileged consumers with service. So the indicator remained unchanged, as abolishment of privileges took place at the very end of the year 2007: 1.0.

## **2.3. State funding**

- 2.3.1. Some consumer groups, especially users of suburban and intercity trains, are subsidized at the expense of enterprises that ship their goods by railway. Coverage by the state of losses resulting from the provision of services by low tariffs is marginal. 2007: 1.0.
- 2.3.2. According to law the government is obliged to cover all railway expenses, which are incurred as a result of providing privileges to certain categories of consumers. In practice the procedure of price compensation is not disclosed. 2007: 1.0.

## **3. Regulatory and institutional development**

### **3.1. Effective regulatory institutions**

- 3.1.1. The CEO of Belarusian Railways is appointed directly by the President. His deputies are appointed by the Council of Ministers. 2007: 1.3.
- 3.1.2. Since 2006 Belarusian Railways is a department of Ministry of Transport and Communication with rights of legal entity. Thus, the practice of administrative intervention in particular activities of the company is legitimized. 2007: 1.3.
- 3.1.3. The rules for operating Belarusian Railways are clearly defined in a number of legislative documents. Yet the decision-making procedures have not been made open to the public. 2007: 1.7.

- 3.2. Access regulation:** Access by outside firms to the market is not possible. 2007: 1.0.



## **ROADS**

### **1. Commercialization and privatization**

#### **1.1. Ownership**

- 1.1.1. Roads are 100% in state and communal ownership. 2007: 1.0.
- 1.1.2. State transportation enterprises are separated into independent legal entities, each of which operates in a certain region. Private urban transportation is highly developed in some towns, reaching 50% market share. Private freight transportation enterprises and individual entrepreneurs provide about 80% of the total amount of services. But their activity is under threat in 2008 with the edict 760 coming in force. For 2007 indicator remained unchanged. 2007: 1.7.
- 1.1.3. Ancillary businesses are state owned. All of them are independent legal entities separated from road management and approximately 23% are incorporated. 2007: 1.7.

#### **1.2. Operation**

- 1.2.1. The natural monopoly operator Belavtodor operates as a government agency, i.e. as part of the Ministry of Transport and Communications. 2007: 1.3.
- 1.2.2. There is political interference in the business and investment decisions of state owned firms by state administrations including local offices. 2007: 1.3.
- 1.2.3. Road construction and maintenance is provided by state owned firms, 23% of which are incorporated. There is private sector participation in service contracts through tenders. Yet the scale of outsourcing has not reached satisfactory levels. 2007: 1.7.

#### **1.3. Organizational structure**

- 1.3.1. Road management is completely separated from freight and passenger transportation services. 2007: 3.0.
- 1.3.2. Road construction and maintenance are separated from the natural monopoly operators. Cooperation between them is based on tendering procedures. 2007: 2.0.
- 1.3.3. The natural monopoly operators are divided into regional monopolies, although these monopolies are heavily regulated by the central and local administrations. The state road operator Belavtodor was reorganized, but the changes were not significant enough to upgrade the indicator. 2007: 1.7.

### **2. Tariff reform**

#### **2.1. Structure of tariffs**

- 2.1.1. Although tariffs are politically determined, state owned firms have some freedom in setting their own tariffs. This happens in towns where competition with private contractors is stronger and the tariffs charged by state owned firms are lower. Investment decisions are highly influenced by the state administrations. 2007: 2.0.
- 2.1.2. According to state legislation, road funding should derive from contributions, which are applied to the price of all products and paid by producers (which are abolished starting from 2008), and from other payments such as the tax on fuel. Also, user fees are levied on truck companies depending on the distance travelled and the truck's parameters. There is one state owned toll road (M1/

E30 Brest – Minsk – Russian Federation border), but revenues do not cover operational costs on this road. 2007: 2.0.

- 2.1.3. The trucking and bus transportation markets are competitive, though competition in the urban transportation market is limited by excessively strict permit requirements. Tariffs on passenger transportation services of state-owned enterprises are set by the Ministry of Economy, although the enterprises have some freedom to change them. The maximum tariffs for private passenger transportation are set by oblast councils. Private freight transportation companies are free to set their own tariffs. 2007: 1.7.

## **2.2. Payments**

- 2.2.1. A certain, but not a significantly large amount of indebtedness between ancillary services providers persists. 2007: 2.3.
- 2.2.2. Revenue collection for passenger transportation is close to 100%, though price compensation for serving privileged passengers remains an issue. However, starting from December 20, 2007 privileges were abolished. Free rider practices in urban transport are also common. The revenues of public transport enterprises relative to their costs continue to be low. The indicator rose to 2.3 due to abolishment of concessionary tickets. 2007: 2.3.
- 2.2.3. State financing of road construction and repair in 2006 has not improved. The revenues of the Road Fund have fallen by 0.3% of GDP. A serious problem constituted its inappropriate use. Around 25% of the fund was spent on agricultural issues. Fall of the revenues of Road Fund and thus financing of road construction and repair determined fall in the indicator to 1.7. 2007: 1.7.

## **2.3. State funding**

- 2.3.1. The government used the cost-plus approach to cover losses of public transport firms instead of compensating them for the cost of providing services to privileged consumers, which would be in accordance with the law. State subsidies did not fully cover costs of public transportation companies: The whole transport industry suffered losses of 1.6%. Private firms generally were not obliged to provide privileges. So abolishment of privileges does not influence much their activity. In many cases the prices charged by private firms resemble those of their public competitors (price discrimination). Indicator remained unchanged. 2007: 1.3.
- 2.3.2. Subsidies are directed straight to the service providers in a non-transparent way. 2007: 1.3.

## **3. Regulatory and institutional development**

### **3.1. Effective regulatory institutions**

- 3.1.1. Management of all state owned companies is appointed by the state administrations, either central or local. 2007: 2.0.
- 3.1.2. Belavtodor, the monopoly road operator is a department of the Ministry of Transport. Road maintenance companies and transportation companies are separate legal entities. 2007: 1.7.
- 3.1.3. There are clear rules of operation for the natural monopoly described in legislative acts. However, the decision making process is not disclosed to the public. Decisions are highly politically influenced. 2007: 1.7.

- 3.2. Access regulation:** Access is regulated by licensing. At the local level route tendering procedures are not transparent. The rules of sharing out routes among various contractors are not clearly defined and public control is lacking.

The regulatory framework continued to be unfavorable for urban transportation firms and entrepreneurs during 2007. Compared with public firms they receive unequal treatment. However the market share of private providers of passenger transportation services<sup>58</sup> continued to increase (from 8.9% in 2006 to 9.2% in 2007). Attempts to soften regulatory framework in freight transportation (edicts 320 and 129)<sup>59</sup> gave none or even some reversed results. So the indicator remained unchanged. 2007: 2.0.

## **TELECOMMUNICATIONS**

### **1. Commercialization and Privatization**

#### **1.1. Ownership**

- 1.1.1. The cable infrastructure is primarily owned by Beltelecom, it further extends fiber-optic networks to the regions, thus providing better access to infrastructure both for population and other providers. Still the structure resembles natural monopoly. The indicator does not change: 1.7.
- 1.1.2. Regional telecommunication enterprises are branches of Beltelecom. Internet providers are privately owned (except Beltelecom), some of which have a state share, and competing with each other. Mobile phone operators are corporatized; state has majority ownership in three of them. The fourth operator MDC was sold to foreign owner in 2007. The indicator increases to 2.0 (1.7 in 2006).
- 1.1.3. Some construction, infrastructure maintenance and other ancillary enterprises are state owned, others are private. Beltelecom is solely responsible for the maintenance of its networks. 2007: 2.0.

#### **1.2. Operation**

- 1.2.1. Beltelecom is an independent financial unit, but the Ministry of Communication and Informatization regulates the activities of Beltelecom. 2007: 1.3.
- 1.2.2. Officially, Beltelecom's long-term target is increasing its earnings and profitability. In reality, investment decisions are made upon approval of the Ministry of Communication and Informatization. Participation in the socially oriented governmental policies in the sphere of telecommunications is obligatory for Beltelecom. 2007: 1.7.
- 1.2.3. The mobile phone networks were developed by private operators. Private sector participates in service contracts and equipment supply by means of tenders. 2007: 2.0.

#### **1.3. Organizational structure**

- 1.3.1. Beltelecom controls international traffic transfer. Beltelecom provides local, long-distance and international calls. Beltelecom is the only primary Internet provider, while secondary Internet providers are mainly private companies that compete with Beltelecom for services. Beltelecom strengthens its positions in the Internet provision segment; competition with the state monopoly remains intense. Mobile communication services are provided by mixed ownership or private operators. State share in the mobile communications operator MDC was sold to foreign owner in 2007. Thus, the indicator for this parameter increased somewhat in 2007: 2.0.

<sup>58</sup> Official data from the Ministry of Statistics. The category "private providers" in this case includes only private entrepreneurs, while firms are not counted.

<sup>59</sup> See part 3.2.1.

1.3.2. Ancillary businesses are independent legal entities. Cooperation between them and Beltelecom is based on tendering procedures, some of which are announced via the Beltelecom website. 2007: 2.3.

1.3.3. Regional companies remain integrated into Beltelecom. Local, long-distance and international phone services are centralized. There are no competing regional operators in telecommunications. 2007: 1.3.

## **2. Tariff reform**

### **2.1. Structure of tariffs**

2.1.1. Beltelecom's tariff policy remains under strong political influence. It is determined by the state policy priorities. Tariffs for local phone calls are set by the Ministry of Economy. Rates for international phone calls and charges for fixed network customer connections to the mobile networks are defined by Beltelecom. Internet tariffs and prices for mobile communications are set by providers. 2007: 2.7.

2.1.2. Local calls are subsidized by international calls. 2007: 2.3.

2.1.3. Mobile and Internet provider charges are competitive and cover costs. Charges for mobile and Internet services are constantly decreasing. 2007: 3.7.

### **2.2. Payments**

2.2.1. Payments within the sector are regular. A certain level of indebtedness still persists in telecommunications, however it is decreasing. 2007: 3.3.

2.2.2. Households cover the tariffs for landline communications charged by Beltelecom. In the case of non-payment they are disconnected. The arrears of legal entities are not significant and falling. 2007: 3.3.

2.2.3. The indebtedness level is low. 2007: 3.3.

### **2.3. State funding**

2.3.1. The below-cost tariffs for local phone calls and the provision of other services to privileged customers are covered by profits generated by other Beltelecom activities (long-distance calls and Internet, e.g.). Some debt restructuring has taken place in the sector. 2007: 2.7.

2.3.2. Cross-subsidization remains. Direct state subsidies are not significant and primarily aid the building of new telecommunications networks and improving the access to telecommunication services in rural areas. 2007: 1.3.

## **3. Regulatory and institutional development**

### **3.1. Effective regulatory institutions**

3.1.1. The top management of Beltelecom is appointed by the Ministry of Communication and Informatization. The managements of the mobile phone operators and the Internet providers are selected by their shareholders. 2007: 2.0.

3.1.2. Beltelecom is a state enterprise. The telecommunications sector activities are regulated and controlled by the Ministry of Communication and Informatization. Mobile phone operators are not subordinated to the Ministry of Communication and Informatization, but the state (represented by Beltelecom) being the majority shareholder in some of them influences the decision-making. (MDC was sold to the foreign owner at the end of 2007, before this it was performing regulations by the majority shareholder-the state). 2007: 1.3.

3.1.3. The rules of the sector operation are determined by the legal acts. Administrative regulation is strong. The decision-making process is not open to the public scrutiny and is influenced by the government policies. 2007: 1.3.

**3.2. Access regulation.** Access is provided through tender allocation and operations licensing. The decisions made are not always transparent. 2007: 1.7.

## **GAS**

### **1. Commercialisation and privatisation**

#### **1.1. Ownership**

1.1.1 Gaszprom acquired 12.5% of the shares of Beltransgaz. The rest of the shares of Beltransgaz belongs to the state. The indicator was increased from 1.7 in 2006 to 2.0 in 2007.

1.1.2. Transportation and distribution of gas are unbundled. Enterprises that form the concern Beltopgaz are mostly state enterprises. 2007: 1.3.

1.1.3. Construction, infrastructure maintenance and other ancillary enterprises are mostly state owned and/or are controlled by the state concerns. 2007: 1.3.

#### **1.2. Operation**

1.2.1. The Ministry of Energy regulates activities of Beltransgaz and Beltopgaz regional organizations (Oblgaz), but the enterprises function as independent financial units. 2007: 1.3.

1.2.2. Commercial goals are weak. Political influence on management and investment decisions prevail. 2007: 1.7.

1.2.3. The role of private sector in providing service for the gas sector is minor. 2007: 2.3.

#### **1.3. Organizational structure**

1.3.1. Gas transportation is separated from distribution and sales. The concern Beltopgaz deals with transportation and sales of gas to consumers. 2007: 1.7.

1.3.2. The enterprises that provide supporting services (delivery, installation) are separated economically and organizationally. 2007: 2.0.

### **2. Tariff reform**

#### **2.1. Structure of tariffs**

2.1.1. Price and tariff setting is still subject to strong political influence, and determined by state priorities in economic development. Economic activities are separated from regulatory functions. All important prices and tariffs are set by the Ministry of Economy. This ministry performs some functions of the regulatory body. 2007: 2.0.

2.1.2. Beltransgaz prices cover average costs. In 2007 the policy of cross subsidization (tariffs for Beltopgaz are subsidised by transit revenues) was continued. Moreover, the mark-up of the Beltransgaz was considerably reduced. As a result, the indicator was decreased from 2.3 in 2006 to 2.0 in 2007.

2.1.3. Overall revenues of enterprises that make up Beltopgaz cover costs. In general the system of price formation is based on the cost plus method. Gas prices for domestic consumers do not depend on the distance of gas delivery. Prices for some industrial consumers and are below costs. There is cross subsidization

of households by industry. As cost recovery by tariffs decreased, the indicator was also decreased from 3.0 in 2006 to 2.3 in 2007.

## **2.2. Payments**

- 2.2.1. In 2007, debts were reduced and the share of cash payments increased. 2007: 3.3.
- 2.2.2. Enterprises, especially in industrial sector, improved their gas payments. Nevertheless overdue debts of various consumers remain. 2007: 3.3.
- 2.2.3. Budget debts are low and they do not exceed the level of payment for monthly gas consumption. 2007: 3.3.

## **2.3. State funding**

- 2.3.1. Some categories of consumers buy gas at preferential prices. In 2007 debt write-off were not practiced and the amount of state funding was reduced. 2007: 2.7.
- 2.3.2. The procedure of granting subsidies lacks transparency and it does not target individual consumers. However, one-time subsidies were not given. 2007: 2.7.

## **3. Regulatory and institutional development**

### **3.1. Effective regulatory institutions**

- 3.1.1. The top management of Beltransgaz and enterprises of n Beltopgaz are appointed by the Ministry of Energy subject to approval by the President. 2007: 1.0.
- 3.1.2. The Ministry of Economy performs some regulatory functions in the sector. 2007: 1.0.
- 3.1.3. Administrative regulation is strong not only in management and decision making, but also in contract performance both of suppliers and consumers. There is no specific legislation that regulates the sector. 2007: 1.0.

- 3.2. **Access regulation.** In 2004 in order to increase openness and transparency in the sector, the tariff for gas transportation via the Beltransgaz pipeline was established. As well, network access to the low-pressure network of Beltopgaz by third parties was established. However, despite considerable improvements in access regulation there are still numerous administrative barriers for third parties access. 2007: 2.0.

## **ELECTRICITY**

### **1. Commercialisation and privatisation**

#### **1.1. Ownership**

- 1.1.1. The enterprises of Belenergo are mainly 100% state property. 2007: 1.3.
- 1.1.2. Generation, transportation and distribution of electric power are not unbundled and are mainly carried out by mostly state enterprises. 2007: 1.0.
- 1.1.3. Construction, infrastructure maintenance and other ancillary enterprises are mostly state owned and/or are controlled by state concern. 2007: 1.3.

#### **1.2. Operation**

- 1.2.1. Ministry of Energy regulates the activities of the Belenergo enterprises, but the enterprises function as independent financial units. 2007:1.3.

1.2.2. Commercial goals are weak. Political influence on management and investment decisions is prevalent. 2007: 1.7.

1.2.3. Construction and infrastructure maintenance are provided not only by the enterprises of Belenergo, some of which are private. 2007: 2.3.

### **1.3. Organizational Structure**

1.3.1. There is no separation between production, distribution and sales. 2007: 1.0.

1.3.2. The enterprises that provide supporting services (delivery, installation) are separated economically and organizationally, some of them are parts of the concern. 2007: 2.0.

## **2. Tariff reform**

### **2.1. Structure of Tariffs**

2.1.1. The setting prices and tariffs is still strongly politically influenced. The Ministry of Economy sets all important prices and tariffs. Economic activities are separated from regulatory functions, some of which the Ministry of Economy is responsible for. 2007: 2.0.

2.1.2. Prices cover average costs of Belenergo. However, cross subsidization of heating by electricity still takes place. 2007: 2.3.

2.1.3. Overall revenues cover Belenergo's costs. In general, the system of price setting is based on the cost plus method. Electricity prices for domestic consumers do not depend on the distance of electricity transmission. In 2007, prices for some consumers were below costs. Tariffs for households remained to be maintained at the level below costs over the year. Moreover, the cost recovery fell down. As a result, the indicator was decreased from 2.0 in 2006 to 1.7 in 2007.

### **2.2. Payments**

2.2.1. Since 2004, debts inside the sector were reduced and the share of non-cash payments among enterprises of the sector practically was liquidated. 2007: 3.3.

2.2.2. The level of payments, especially among industrial enterprises, increased. In 2007 they paid fully for current electricity consumption. Nevertheless debts of various consumers remain. 2007: 3.3.

2.2.3. Budget debts are low and they do not exceed the average level of payment for monthly electricity consumption. 2007: 3.3.

### **2.3. State funding**

2.3.1. Some categories of consumers buy electricity at preferential prices. New debts are restructured. In 2006 debt write-off were not practiced. 2007: 2.7.

2.3.2. The procedure of granting subsidies lacks transparency and it does not target individual consumers. One-time subsidies sometimes were not given. 2007: 2.7.

## **3. Regulatory and institutional development**

### **3.1. Effective regulatory institutions**

3.1.1. Top management of the enterprises of Belenergo are appointed by the Ministry of Energy subject to approval by the President. 2007: 1.0.





- 3.1.2. Only household tariffs are set externally from Belenergo (by the Council of Ministries). Belenergo declares tariffs to the Ministry of Economy. Belenergo is managed by the Ministry of Energy. 2007: 1.0.
- 3.1.3. Administrative regulation is strong not just in management and decision making, but also in the contract performance both of suppliers and consumers. There is no specific legislation that regulates the sector. 2007: 1.0.
- 3.2. Access regulation** to the power lines network is provided by Belenergo, nevertheless it is not closed. 2007: 1.0.

## Appendix 3

### Infrastructure Indicators Evaluation

Indicator	Railway		Roads		Telecommu- nications		Gas		Power	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
<b>1. Commercialization and privatization</b>	<b>1.5</b>	<b>1.5</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>1.5</b>	<b>1.5</b>
1.1. <i>Ownership</i>	1.3	1.3	1.5	1.5	1.8	1.9	1.4	1.5	1.2	1.2
1.1.1. Natural monopoly	1.3	1.3	1.0	1.0	1.7	1.7	1.7	2.0	1.3	1.3
1.1.2. Potentially competitive businesses	1.3	1.3	1.7	1.7	1.7	2.0	1.3	1.3	1.0	1.0
1.1.3. Ancillary businesses	1.3	1.3	1.7	1.7	2.0	2.0	1.3	1.3	1.3	1.3
1.2. <i>Operation</i>	1.7	1.7	1.4	1.4	1.7	1.7	1.8	1.8	1.8	1.8
1.2.1. Natural monopoly	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1.2.2. Natural monopoly planning and investment decisions	2.0	2.0	1.3	1.3	1.7	1.7	1.7	1.7	1.7	1.7
1.2.3. Private sector participation in service contracts	1.7	1.7	1.7	1.7	2.0	2.0	2.3	2.3	2.3	2.3
1.3. <i>Organizational structure</i>	1.4	1.4	2.2	2.2	1.8	1.9	1.9	1.9	1.5	1.5
1.3.1. Separation of natural monopoly and potentially competitive businesses	1.0	1.0	3.0	3.0	1.7	2.0	1.7	1.7	1.0	1.0
1.3.2. Separation of ancillary businesses	1.3	1.3	2.0	2.0	2.3	2.3	2.0	2.0	2.0	2.0
1.3.3. Decentralization	2.0	2.0	1.7	1.7	1.3	1.3	—	—	—	—
<b>2. Tariff reform</b>	<b>1.5</b>	<b>1.5</b>	<b>1.8</b>	<b>1.8</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.6</b>	<b>2.7</b>	<b>2.6</b>
2.1. <i>Structure of tariffs</i>	1.7	1.7	1.9	1.9	2.9	2.9	2.4	2.1	2.1	1.9
2.1.1. Political vs. regulated operator's	1.7	1.7	2.0	2.0	2.7	2.7	2.0	2.0	2.0	2.0
2.1.2. Natural monopoly pricing	1.7	1.7	2.0	2.0	2.3	2.3	2.3	2.0	2.3	2.0
2.1.3. Potentially competitive businesses pricing	1.7	1.7	1.7	1.7	3.7	3.7	3.0	2.3	2.0	1.7
2.2. <i>Payments</i>	1.7	1.8	2.1	2.1	3.3	3.3	3.3	3.3	3.3	3.3
2.2.1. Intra-industry payments ratios	2.0	2.0	2.3	2.3	3.3	3.3	3.3	3.3	3.3	3.3
2.2.2. Final consumers collection ratios	2.0	2.3	2.0	2.3	3.3	3.3	3.3	3.3	3.3	3.3
2.2.3. Budget indebtedness	1.0	1.0	2.0	1.7	3.3	3.3	3.3	3.3	3.3	3.3
2.3. <i>Budgetary funding</i>	1.0	1.0	1.3	1.3	2.0	2.0	2.4	2.7	2.7	2.7
2.3.1. Subsidies level	1.0	1.0	1.3	1.3	2.7	2.7	2.7	2.7	2.7	2.7
2.3.2. Subsidies procedure	1.0	1.0	1.3	1.3	1.3	1.3	2.0	2.0	2.7	2.7
<b>3. Regulatory and institutional development</b>	<b>1.2</b>	<b>1.2</b>	<b>1.9</b>	<b>1.9</b>	<b>1.6</b>	<b>1.6</b>	<b>1.5</b>	<b>1.5</b>	<b>1.0</b>	<b>1.0</b>
3.1. <i>Effective regulatory institution</i>	1.4	1.4	1.8	1.8	1.5	1.5	1.0	1.0	1.0	1.0
3.1.1. Management selection of competitive businesses	1.3	1.3	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
3.1.2. Independence of regulator, insulation from political influence	1.3	1.3	1.7	1.7	1.3	1.3	1.0	1.0	1.0	1.0
3.1.3. Transparency of regulation	1.7	1.7	1.7	1.7	1.3	1.3	1.0	1.0	1.0	1.0
3.2. <i>Access regulation</i>	1.0	1.0	2.0	2.0	1.7	1.7	2.0	2.0	1.0	1.0
<b>IPM Research Center's indicator</b>	<b>1.4</b>	<b>1.4</b>	<b>1.8</b>	<b>1.8</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>1.9</b>	<b>1.7</b>	<b>1.7</b>
<b>EBRD indicator</b>	<b>1.0</b>	<b>1.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>—</b>	<b>—</b>	<b>1.0</b>	<b>1.0</b>

Sources: EBRD (2007). People in Transition. Transition report 2006; EBRD (2006). Finance in Transition. Transition report 2006; IPM Research Center's estimates.



## About the project

The joint project of the German Economic Team in Belarus and the IPM Research Center was launched in May 2003 with support of the Ministry of Economy (Germany) under the TRANSFORM program. The main objective of the project is to support the Belarusian government in the field of economic policy. To achieve this, the team of experts regularly prepares analytical papers on different topical issues and presents recommendations to the officials from the National Bank, the Ministry of Finance, the Ministry of Economy, the Ministry of Foreign Affairs and other institutions involved in the process of formation and implementation of economic policy.

## Activities

- Regular analysis of the economy of Belarus;
- Monitoring of main sectors of the economy;
- Promotion of professional dialogue between Belarusian and German experts on important issues for the economic development of Belarus.

## Team

### *German Economic Team in Belarus*

Prof. Dr. Stephan von Cramon-Taubadel, agriculture and real sector, co-leader

Dr. Ricardo Giucci, macroeconomy and financial sector, co-leader

Robert Kirchner, macroeconomy and financial sector, consultant

### *IPM Research Center*

Dr. Igor Pelipas, monetary economics and applied econometrics, Director of the IPM Research Center

Dr. Irina Tochitskaya, international economics, Deputy Director of the Research Center

Dr. Elena Rakova, energy sector, structural and competition policy, enterprise reform

Alexander Chubrik, M.A. in Economics, economic growth and monetary policy

Dzmitry Kruk, M.A. in Economics, banking sector

Anastasiya Glambotskaya, M.A. in Economics, M.A. in International Political Economy, international economics, entrepreneurship, telecommunications

Gleb Shymanovich, M.A. in Economics, transport sector and public finance



## Analytical materials

Current research products and publications of the project group are available via the Internet (<http://research.by/get>).

### *Belarusian Monthly Economic Review (BMER)*

A monthly bulletin has been published since October 2002. It provides readers with recent news on politics and economics, covering such sectors of the economy as the real sector, structural trends, the external sector, public finance, monetary policy and the banking sector.

### *Policy Papers*

Analytical materials on specific economic issues providing policy recommendations for the government and other organizations involved in the process of creating and implementing economic policy.

PP/01/06	Distribution Channels in Export Promotion: Is there Place for State Support?
PP/02/06	Major impediments to private participation in urban transportation in Belarus
PP/03/06	Economics of Nuclear Power Development in Belarus
PP/04/06	Wage Determinants in Belarus: Labor Productivity and Wage Policy
PP/05/06	Abolishment of Turnover Taxes in Belarus: Economic and Fiscal Implications
PP/06/06	Independent Regulation in Infrastructure Sectors: The Case for Regulating Local Transportation Markets in Belarus
PP/07/06	The Telecommunications Market in Belarus: Problems and Recommendations
PP/08/06	The Effects on International Road Freight Transportation of the Protectionist Policies Concerning the Truck Manufacturing Industry in Belarus
PP/09/06	The Development of Credit Unions in Belarus
PP/10/06	The Macroeconomic Impact of Gas Price Increase in Belarus: Quantitative Assessment
PP/01/07	Public Private Partnership
PP/02/07	Energy Shocks and Macroeconomic Management: Policy Options for Belarus
PP/03/07	Raising Funds at Western Capital Markets: Opportunities for Belarusian Companies
PP/04/07	Regulatory barriers for SMEs in Belarus: The Role of Price Regulation
PP/05/07	Student Loans: An Effective Instrument for Financing Higher Education
PP/06/07	Adopting Inflation Targeting: Overview of Economic Preconditions and Institutional Requirements
PP/07/07	Adopting Inflation Targeting: Operational Framework for Belarus
PP/08/07	Quasi-Fiscal Activity in the Energy Sector in Belarus



WP/01/07      Modelling and Forecasting of Inflation in Belarus

*Belarus Infrastructure Monitoring*

Monitoring of the current situation and the perspectives for the development of the energy, telecommunications and transport sectors in Belarus. The following sectors are monitored: electricity, gas, communication and communication services, railways and roads.