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PREREQUISITES AND POSSIBILITIES FOR CONSOLIDATION IN THE WATER SUPPLY SECTOR IN BULGARIA

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Abstract: Study investigates means for achieving consolidation in the water supply sector in Bulgaria – voluntary and obligatory. The results indicate that the most powerful tool for achieving voluntary consolidation is the perspective of receiving EU funds.
Keywords: Consolidation, water supply sector, economy of scale.

INTRODUCTION

Water supply is an economic activity with extremely high proportion of fixed cost, which is a prerequisite for consolidation in order to achieve economies of scale. Because of the characteristics of water supply sector, the economies of scale can take place provided, water and sanitation services (WSS) are distributed to more customers using the same infrastructure assets (Kim, 1988, pp. 479–502). The WSS industry depends on geographic and logistics factors as density of population, its concentration or distribution. Consolidation is part of a massive reform of the water and sewerage sector that has been underway in Bulgaria for several years. The paper analyzes the prerequisites and the possibilities for its implementation as well as the stage at which it is now.

PROBLEM PRESENTATION AND RESULTS

There is no consensus in the literature on the optimal size of water-supply companies, however, it may be assumed that consolidation leads to economies of scale, because of the share of bureaucratic costs associated with the management of the large-scale infrastructure assets in the sector by which business is carried out related to reporting and meeting regulatory requirements (Pedro Carvalho, 2011, p. 2).

In Europe, there is a tendency for consolidation in WSS industry, partly related to economies of scale and partly related to access to financing at better terms. It is accepted that optimal entity size is minimum 250 000 users of water supply and sanitation services (SRUViKB). In Bulgaria, the size of WSS operators does not correspond with this and that is an argument in favor of future consolidation. According to the Bulgarian National Statistical Institute (NSI) data only four regions in the country have enough population for over 250 000 users (that is more than 375 000 people with an average 1,5 people in a household) – Sofia (capital), Plovdiv, Varna and Burgas (NSI). Taking into account the population decrease predictions in the coming years (NSI), the users of the WSS will decrease, ie. the maintenance and operation of the infrastructure will require a significant increase in the cost of water and sanitation services. Table 1 presents data regarding population of Bulgarian regions and NSI-prognosis for 2025 and 2035 as well. The prognosis is based on the hypothesis of convergence (retention of trends). In the Table 1 the population exceeding 225 000 people, which is approximately 150 000 users of service, is marked.

The Strategy for Development and Management of the Sector (SRUViKB, p. 3) provides consolidation of the WSS industry. According to it 28 Territorial-Independent WSS-Associations should have been formed and there should have been 28 WSS operators respectively. However, this proposal was not accepted when

voting amendments to the Water Act. In this situation, the envisaged consolidation is rather desirable and the only option for its implementation is on a voluntary basis.

Historically, the WSS sector was consolidated until 1989. There were 28 regional utility companies and one municipal company (in the capital Sofia). Their territorial coverage was based on the administrative areas. Except for the WSS Company in Sofia, which was municipal, the remaining were 100% state-owned. The situation changed at the beginning of 1990s when the national economy was restructured.

The Energy and Water Regulatory Commission proposed in 2012 the introduction of a licensing regime for water and sewerage operators requiring a minimum number of serviced population for the purpose of forcibly consolidating the water supply sector but the proposal was not adopted (KEVR, 2015, p. 7).

Table 1. Population and prognosis in Bulgarian regions

Regions	Population 2016 г.	Population prognosis 2025 г.	Estimated change 2025-2016 г.	Population prognosis 2035 г.	Estimated change 2035-2016 г.
Blagoevgrad	310 321	289 431	-20 890	261 135	-49 186
Burgas	412 684	413 993	1 309	408 614	-4 070
Varna	472 654	474 400	1 746	465 045	-7 609
Veliko Tarnovo	242 259	223 762	-18 497	199 637	-42 622
Vidin	88 867	73 586	-15 281	59 362	-29 505
Vtatsa	168 727	144 489	-24 238	120 694	-48 033
Gabrovo	112 334	97 851	-14 483	82 450	-29 884
Dobrich	178 438	163 246	-15 192	146 315	-32 123
Kardzali	150 837	138 734	-12 103	126 545	-24 292
Kyustendil	123 431	102 043	-21 388	82 351	-41 080
Lovech	129 222	111 643	-17 579	94 993	-34 229
Montana	134 669	119 957	-14 712	105 010	-29 659
Pazardzik	260 814	237 925	-22 889	211 900	-48 914
Pernik	123 770	110 026	-13 744	95 446	-28 324
Pleven	248 138	218 760	-29 378	188 637	-59 501
Plovdiv	671 573	662 160	-9 413	643 348	-28 225
Razgrad	115 402	102 309	-13 093	88 005	-27 397
Ruse	223 489	208 540	-14 949	191 406	-32 083
Silistra	111 957	101 335	-10 622	89 214	-22 743
Sliven	189 788	176 875	-12 913	164 176	-25 612
Smolyan	109 425	87 627	-21 798	67 565	-41 860
Sofia (capital)	1 323 637	1 393 033	69 396	1 455 437	131 800
Sofia region	234 185	212 350	-21 835	189 826	-44 359
Stara Zagora	321 377	304 217	-17 160	283 899	-37 478
Targovishte	113 694	104 926	-8 768	94 658	-19 036
Haskovo	233 415	210 105	-23 310	186 992	-46 423
Shumen	174 476	167 002	-7 474	156 047	-18 429
Yambol	122 276	109 720	-12 556	97 231	-25 045
Total for Bulgaria	**7 101 859**	**6 760 045**	**-341 814**	**6 355 938**	**-745 921**

Without applying special legal or economic incentives for consolidation in the water and sewerage sector, the process may take place slower than necessary. Industries have a natural development starting at a low concentration stage in the early stages of their life cycle and ending with consolidation at the mature stage. There are studies showing that, if not regulated, this process takes about 25 years after an industry emerges or is deregulated (Graeme & Deans, 2002). The water sector is regulated, which can be seen as a deterrent to consolidation, as the deregulation of a sector is seen as a key prerequisite for the consolidation process, along with the increased competition and technological progress in the sector. At the same time, the presence of increased regulatory costs is a pro-consolidation factor, as in the case of mergers, they do better with the requirements of regulatory bodies (Gary & Gerlach, 2000). Its influence, however, can hardly compensate for the lack of the other prerequisites – deregulation, competition, technological progress. This in practice means that no significant consolidation in the industry can be expected unless it is stimulated by the implementation of a targeted state policy containing certain measures in this direction.

A strong incentive to consolidate businesses is economies of scale. A study of the water supply industry in the United States found out that for small, fragmented water supply companies, consolidation brings significant economies of scale, while for larger companies the further consolidation does not bring such benefits (Marcelo Torres, 2006, pp. 104-120). According to some researchers, the consolidation of the enterprises in the sector is seen as a key factor for increasing capacity and financial sustainability (Kaschiev, 2015, p. 24). Another study concludes that, under public ownership of WSS systems and facilities, it is more likely for the company to suffer loss than to have economies of scale (Pedro Carvalho, 2011). However, in general, studies in different years or in different countries give contradictory and inconclusive results about the existence of real economies of scale in the water sector. More convincing are the evidences of savings and improvement in the efficiency of integrating the water supply, sewerage and wastewater treatment into the same enterprise instead of the provision of these services by different businesses (Pedro Carvalho, 2011, p. 7), that means the realization of savings from vertical integration and scope.

Despite the controversial results of the studies conducted, in a number of countries, the water sector is consolidating. For example, England and Wales, the Netherlands (Zschille, 2012, p. 2), Romania, where operators have been reduced from about 800 to 42, and Italy, where out of 13,000 operators now there are 91 (KEVR, 2015, p. 14). Specifically in the Netherlands, post-consolidation effects have been an increase in costs in the short term due to the need to align the level of service and increase efficiency in the long run, resulting in a cost reduction of about 30% compared to the 1990s (Dane, 2016, p. 23). However, there is no data on the economies of scale resulting from the consolidations in the water supply in different countries, as opposed to other infrastructure sectors such as power supply (Zschille, 2012, p. 6).

There is a view that the separation, albeit mechanically, of a single monopoly structure in the water supply and sewerage sector into smaller regional enterprises could bring elements of competition between them (Kunev, 2010, p. 249).

Consolidation in the industry could also have a positive effect on the quality of services provided by WSS operators. Such an opinion is also advocated by Ivaylo Kaschiev, Head of the Water Supply Directorate at The Energy and Water Regulatory Commission (Kaschiev, 2015, p. 15). A national representative survey states that "water of constantly poor quality is usually supplied by water and sewerage companies serving a population of 100 to 250 thousand people" (MOSV), which can be explained by the fact that for these operators the revenue ratio and the cost of watering the large water supply and sewerage network is the most unfavorable and fails to gather the resources needed to ensure the quality of its activity.

Generally, the consolidation of WSS industry can have both positive and negative aspects. They are summarized in Table 2.

Table 2. Advantages and disadvantages of consolidation of WSS industry

Stakeholders	Advantages	Disadvantages
Customers	Better service quality	Less engagement with local issues
Water supply and sewerage operators	Increased capacity to finance water supply and sewerage infrastructure More professional management	Increased responsibility Higher exposure to risk Loss of operational flexibility
Municipalities	Shared responsibilities	Loss of control
Government / State	Increased efficiency	Increased responsibility
Personnel	More opportunities for good salary, professional growth and career	Staff reduction, concentration of responsible staff at headquarters

As an economic incentive for consolidation in the water supply and sewerage sector in Bulgaria can be seen the possibility of using funds from the Operational Program "Environment 2014–2020" and the Rural Development Program 2014–2020 for the construction of a water supply infrastructure only in administrative regions where services are provided by a single WSS operator. Such a limitation on the possibilities for using funding is provided in the Partnership Agreement between the Republic of Bulgaria and EU outlining the assistance from the European Structural and Investment Funds for the period 2014–2020 (SPRBOPESIF). This can be considered as an effective incentive, as the started consolidation in the industry is mainly motivated by the possibility of using EU funding. According to Mitko Staikov – Governor of Targovishte region "our purpose is all the five municipalities in the region to consolidate in the WSS Association, in order to access EU funds for increasing WSS quality and for WSS infrastructure construction"(V Targovishte se provede izvanredno zasedanie na Asociaciata po ViK. 31.07.2017).

As of 2014, there are 51 Regional Plans for WSS in Bulgaria (SPRBOPESIF, p. 44). Some of the water supply and sewerage companies are small and operate on the territory of one municipality, which prevents them from generating sufficient revenues and thus making capital investments for the construction and rehabilitation of the water and sewerage infrastructure. Another problem for small companies is the lack of capacity to perform all the activities assigned to the water supply and sewerage system operators, mainly due to the shortage of specialists and the inability to provide technologies in the field of water treatment.

Small operators face the risk of shortage of capacity and of the ever-increasing demands on water supply and sewerage. In the published Draft Ordinance on the Requirements and Criteria for Water Supply and Sewerage Operators and the qualification of their personnel, it is envisaged that the water supply and sewerage operators should have certain equipment, a relevant set of key personnel with minimum education and professional experience criteria, as well as increased requirements for the periodic training and increasing the qualification of the staff. It is envisaged that complying with these requirements should be provided by the operator's own resources, while it is recorded that the water and sewerage operator must maintain a cost efficiency ratio of more than 1 (ie the revenues to exceed the costs). Although it is still not an Ordinance in act yet, this project is a clear sign of the direction in which the regulatory requirements for the WSS operators are going to shift.

In a number of analyzes carried out by Ministry of Regional Development and The Energy and Water Regulatory Commission it is concluded that small and micro-operators in general do not have the necessary capacity and fail to meet the requirements for water purification (Ministerski savet, p. 25). They achieve far worse results on compliance indicators for wastewater quality. At the same time, large enterprises report significantly higher operating costs per kilometer of water supply network, and for the year 2014 they reported an average cost of BGN'000 7.39 per kilometer plumbing. For comparison the average operators reported an average of BGN'000 4.23 per kilometer plumbing, the small ones – BGN'000 4.03 per kilometer and micro operators – BGN'000 2.06 per kilometer (Ministerski savet, p. 62). This raises questions about the actual economies of scale in the industry.

Contrary to the national consolidation strategy, there is non-hidden reluctance and resistance on the part of local authorities, motivated mostly by the possible loss of control over water supply. For example, in the region of Razgrad, the attempts to consolidate the three water supply and sewerage companies met the municipality's resistance of Isperih, where on June 30, 2016, at its meeting, the Municipal Council of Isperih decided that it did not want to be part of the WSS reform (according Forum 24), according to which The Council does not accept the suggestions for accession of the Municipality of Isperih to a separate territory serviced by "Vodosnabdyavane – Dunav" Ltd. Razgrad" (Obshtinska administracia Isperih). The situation in the Blagoevgrad region is similar, where all municipalities, except Kresna Municipality, are for the WSS Association. The non-participating of one municipality is blocking access to EU funds for the whole region (Simeonov, 2016).

The process, in the regions consolidated in 2016, did not pass without some resistance also. The transition of the Municipality of Dimitrovgrad to the Territory of the WSS Association of Haskovo have been accompanied by a violent discussion and unwillingness of part of the municipal councilors to support this decision, mainly being afraid that the municipality will lose its control, as well as being concerned about the cost of water and the loss of work positions (Obshtina Dimitrovgrad, 2015). There are also some ambiguities about the particular areas in which certain municipalities are to join. For example, the municipalities of Popovo and Opaka are connected with WSS operator in Razgrad region, although they administratively belong to the region of Targovishte. This gives rise to certain difficulties in consolidation, which is set out in the National Strategy on a Regional Principle and these municipalities are negotiating their accession to the Territory of the WSS Association of Targovishte region (BNR – Radio Shumen, 2017).

CONCLUSION

According to the data of the Ministry of Regional Development and Public Works, as of 23.02.2017, in total, in 21 out of 28 administrative regions, all municipalities are members of the Regional WSS Association, of which in 16 districts it was a fact by 2014 and in 5 districts the agreement for consolidation was achieved in 2016 (MRRB, 2017). This in practice means an actual ongoing consolidation of the water-supply and sanitation industry, although not complete. The economic stimulus, i.e. the possibility of access to the funds under the Operational Program "Environment 2014–2020" and the Rural Development Program 2014–2020 for the construction of water supply infrastructure, is sufficient to consolidate the sector without a licensing regime and without unambiguous evidence that this will in itself lead to increased economic efficiency.

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