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D20: WaterTime case study – Gdańsk, Poland

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1 Overview of Gdańsk

With an area of 262km² inhabited by 457,000 people, Gdańsk is the largest economic centre of Poland's coastal belt. Poland's largest city until around 1770, it is still its 6th largest. Its population has increased relatively little since 1975 (420,000 inhabitants).¹ Together with several other urban areas Gdańsk forms an agglomeration known as the Tri-City (*Trójmiasto*) with more than 800,000 inhabitants.

Gdańsk is divided into 30 quarters. Since the 1999 administrative reforms, Gdańsk is the capital of the voivodship of Pomerania (18,298 km² with a population of 2.2m).²

1.1 History

Gdańsk traces its history back to mediaeval times, being a major Polish port from the 14th century, and a leading member of the Hanseatic League. The Reformation reached Gdańsk as early as the twenties of the 16th century, after which the city gave shelter to religious dissidents ranging from Dutch Mennonites to Scots, Huguenots and Jews, continuing the melting pot traditions associated with its status as a major Baltic port. Following the second partition of Poland in 1793, Gdańsk was annexed by Prussia (and briefly taken over by Napoleon in 1807-1814). In 1919 the Treaty of Versailles made Gdańsk a Free City, supervised by the League of Nations, which lasted until the outbreak of the Second World War. After 1945 Gdańsk was once again part of Poland, its population in 1946 a twentieth-century low of 118,000.

In the post-war period, Gdańsk became indelibly associated with two famous strikes by shipyard workers. The first, in December 1970, was violently repressed, and several striking workers were shot. The second, in 1980, under the leadership of the later President Lech Walesa, led to the emergence of the Solidarity trade union, which represented an implicit opposition coalition of disaffected labour, dissident intelligentsia, and Roman Catholic clergy.

1.2 City in Time

Gdańsk suffered from the typical nineteenth century health problems associated with using the same water source for water supply and for (untreated) wastewater disposal. The first groundwater intake ('Pregowo', still in use in 2003) was constructed in 1869.

The sewerage system of Gdańsk, including a sewage treatment plant, a pumping station and collecting sewers, was designed by the German engineer Friedrich Wiebe in 1865. The design addressed the problems of collecting, transporting and treating wastewater simultaneously; from the very beginning the stormwater system and the sewerage system were separated. The first (mechanical) sewage treatment plant began operation in 1872, and continued to operate until it was shut down in 1991. In 1932 an activated sludge plant "Zaspa" was built,³ and it remains in use in 2003, although there are plans to close it down.

Until 1970 the sewerage system of Gdańsk built before World War II remained largely unchanged. In 1976 the new wastewater treatment plant "Wschod" was completed, and in 1985 its capacity doubled to 180,000 m³. However, Wschod was only a mechanical plant, and was not modernised due to a lack of finance.⁴ "As a consequence, the results of treatment deteriorated significantly. Most of the increasing amounts of sewage collected in Gdańsk was treated only mechanically, which caused increasing pollution of Gdańsk Bay."⁵ In 1993 chemical treatment was added to Wschod, and in 1997-2000, biological treatment.



Source: CIA World Factbook (2003)

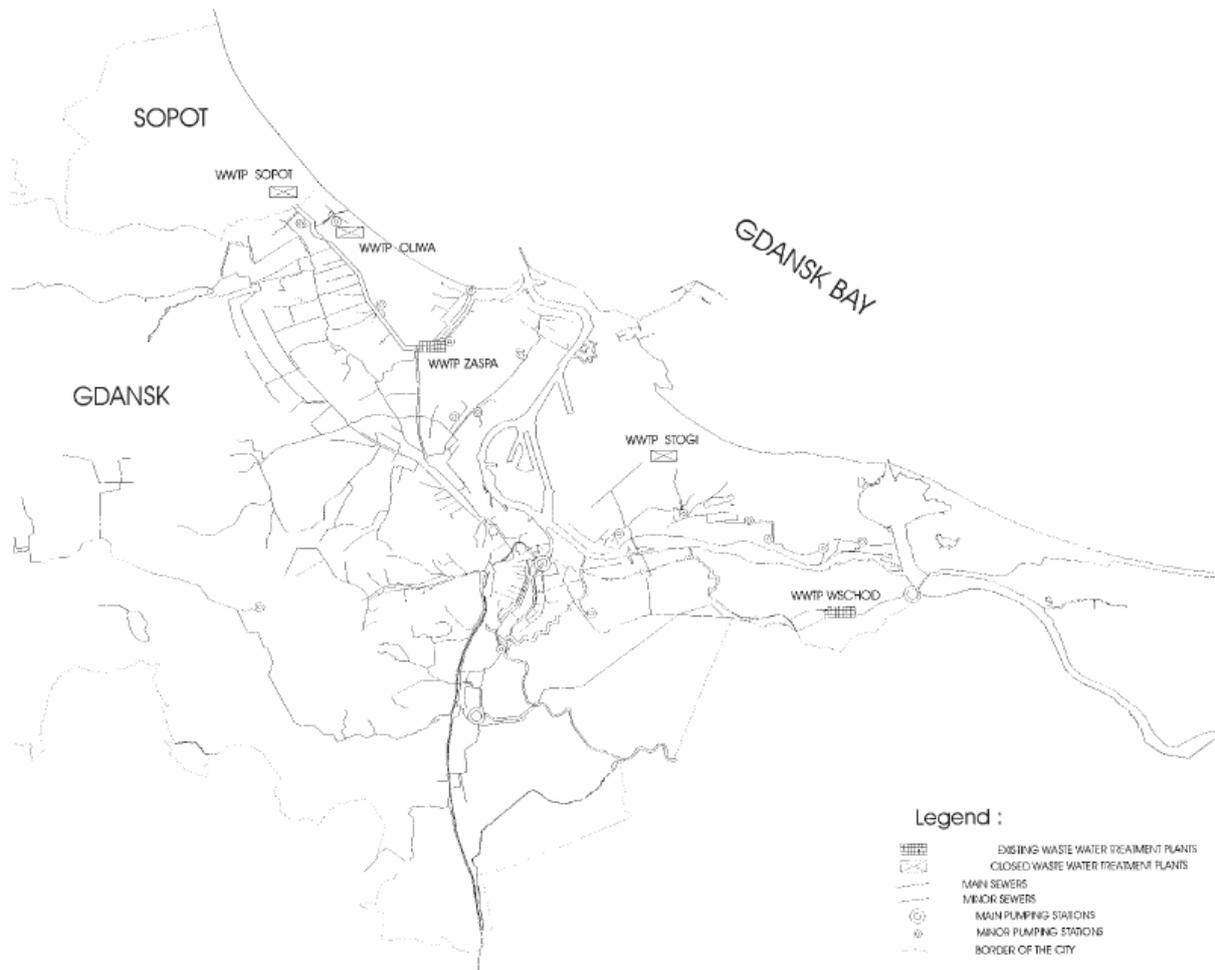


1.2.1 City in Time actors and factors

Year	Event	Factor	Outcome	Organisational change	Actors
1865	Water and sewerage system construction begins	Sanitary conditions in Gdańsk			Citizens, City/Mayor
1872	WWTP begins operations				
1932	More modern WWTP ("Zaspa") begins operations				
c 1950	Municipal company taken over by voivodship	Most municipal services nationalised post-1945 under communist system		Nationalisation	Voivodship
1976	Construction of modern WWTP ("Wschod")	Widespread environmental pollution from Gdańsk wastewater	Wschod completed, though mechanical treatment only		Voivodship
1985	Capacity of "Wschod" doubled to 180,000 m ³				Voivodship
1992	Utility transformed from voivodship company (Opwik*) by giving assets to city and 30-year concession to SAUR joint venture with city	Various	SNG created	Municipalisation and privatisation	City/Mayor, national government
1990 - 2000	50% decline in water consumption	fall for industry (decline, increased efficiency); fall for consumers (meters, higher prices)			Industry, consumers, company
1993	Chemical treatment added to Wschod	Finance provided by city, company and Ecofund			City/Mayor, Ecofund
1995	15% decline in household water consumption	Prices, meters	Income falls so much that SNG makes a loss that year		Consumers

* Okręgowe Przedsiębiorstwo Wodociągów i Kanalizacji

1.3 Water resources and uses

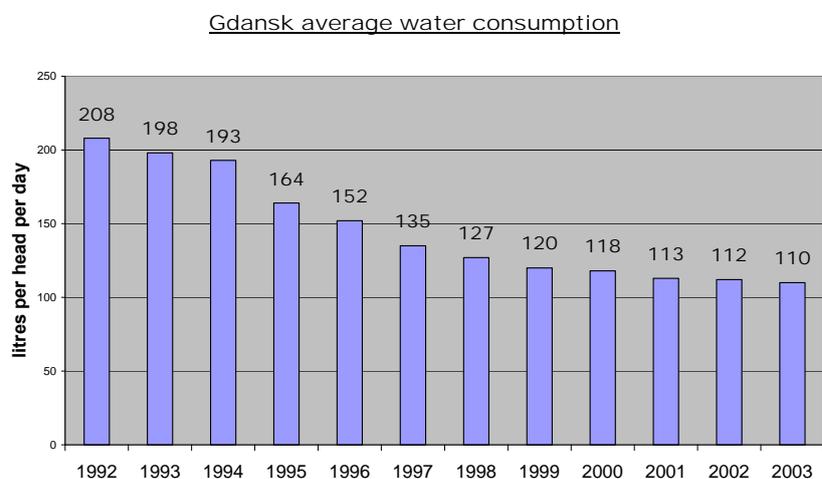


Source: Swinarski (1999:70)

Gdańsk is situated at the mouth of the Motława River, and takes its name from an older name of the river, 'Gdania'. The Motława is a branch in the delta of the Vistula, whose waterway system connects 60% of the area of Poland, giving the city a unique advantage as the centre of Poland's sea trade. The Vistula is Poland's longest river at 1047km.

Water consumption has fallen 47% from 1992 to 2003, from 208 litres per person per day to 110.⁶

In 2003, 27.937m³ water were entered into the Gdańsk water network. Of this, 16.796m came from groundwater sources, 8.438m from surface water, and 2.240m from other sources. In 2003, 87.1% of drinking water in the main Gdańsk network met EU standards.⁷



Source: SNG (2004b)



In 2003, 15.85% of the 34.8m m³ wastewater treated in Gdańsk came from neighbouring communities. 87.39% of wastewater was treated in the “Wschod” plant, and 12.61% in “Zaspa”. Wschod exceeds treatment standards, whilst Zaspa fails on nitrogen and phosphorus content.⁸

SNG customers by group (no)

Group	%
Consumers	61%
Housing communities	12%
Managers of housing communities	9%
Housing cooperatives	6%
Industry/commerce	2%

Source: SNG (2004a)

Structure of SNG income by sales (%)⁹

	Households	Industry	Other
Water	78.7	7.4	13.9
Wastewater	70.3	12	17.7

Gdańsk water system 2003

Drinking water

- 1 surface water source Straszyn
- 1 drainage source Pregowo
- 33 groundwater sources
- Pumping stations: 10
- Booster stations: 15
- Pressure zones: 5
- Network length: 1097.5 km
- Water produced: 27.9m m³
- Revenue water: 26.1m m³

Sewerage

- 2 WWTP
- Wschod: 83,328 m³/day (average 2003)
- Zaspa: 12,024 m³/day (average 2003)
- Sewage pumping stations: 57
- Network 949 km
- Wastewater treated: 34.8m m³
- Revenue wastewater: 28.2 m³

Source: SNG (2004a)

Sopot water system 2003

Drinking water

- 1 drainage source
- 4 groundwater sources
- Pumping stations: 1
- Pressure zones: 3
- Network length: 132.07 km
- Water produced: 3.1m m³

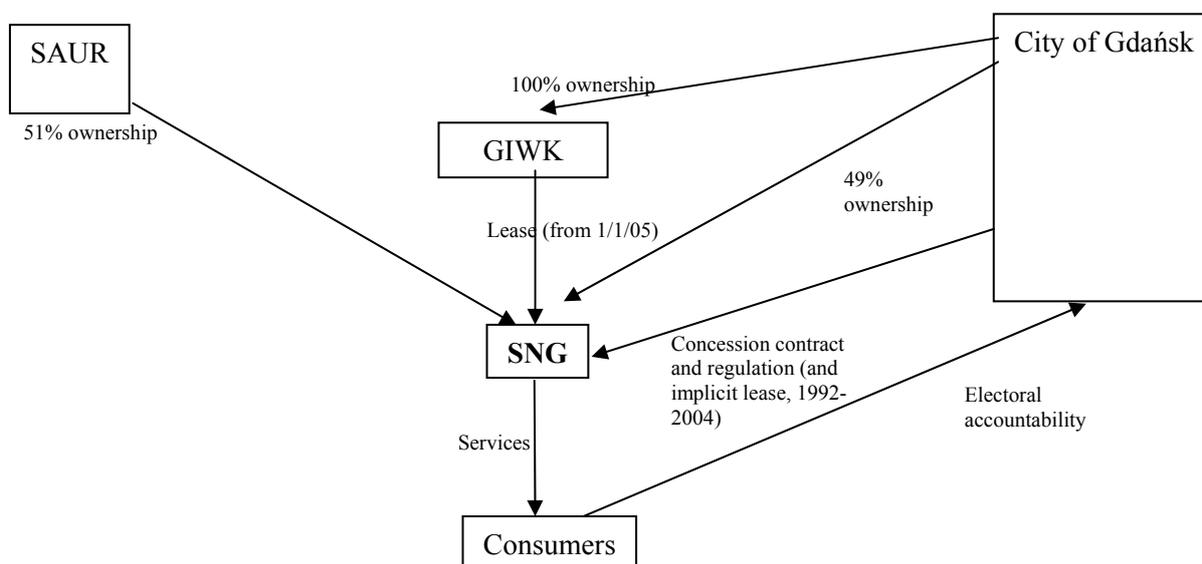
Source: SNG (2004a)

2 Water and sewerage undertaking

2.1 Overview

The water system in Gdańsk was privatized in the early 1990s with a 30-year concession to SAUR. A joint venture company (51% SAUR, 49% City of Gdańsk), called Saur Neptun Gdańsk (SNG) was set up on 30 June 1992, with the contract taking effect on 19 January 1993.¹⁰ Gdańsk is a part of a large metropolitan area called “Tri-city,” which includes Gdynia and Sopot. The cities’ water and sewerage systems are separate, with the exception that Sopot’s wastewater is directed to Gdańsk.¹¹ The SNG concession also covers Sopot (for both water and sewerage), but not Gdynia.

From 1992 to 2004 the infrastructure was owned directly by the City of Gdańsk and “implicitly” leased to SNG. From 1st January 2005, the infrastructure will be owned by the city via an Asset Holding Company, GIWK, which will sign a contract to lease the infrastructure to SNG. The city owns the infrastructure and is responsible for deciding on and financing investment (with advice from SNG); and sets prices annually, on the advice of SNG. SNG is responsible for infrastructure leased to it, for operations, ensuring standards (quality, continuity, pollution) are met; investment advice; and implementation of investment.¹²



2.2 Transparency and participation

For some years SNG has had a policy of being a “transparent enterprise” and actively sought dialogue with its consumers. In 2003 this included the third consumer survey, organisation of two public debates on water operations and investment, and several Open Days. Open Days involved visits by SNG employees to secondary schools and colleges, and a visit by students to the company headquarters.

The survey found that in 2003, 68% of Gdańsk inhabitants were familiar with the company, an increase from 45% in 1993. It also found customer satisfaction considerably higher among those served primarily with water from groundwater sources. Among the 61% of customers who deal directly with SNG (rather than through intermediary organisations), 92% had a positive opinion of the company in 2003.

The first public debate in 2003 focussed on changes to the treatment of the drinking water from the surface water source of Straszyn. The second, together with partners from the city council, looked at the problem of disputed networks (parts of the networks of problematic legal status), as well as planned investments in water and sanitation. Results for current water quality and the consumer survey were also presented.¹³

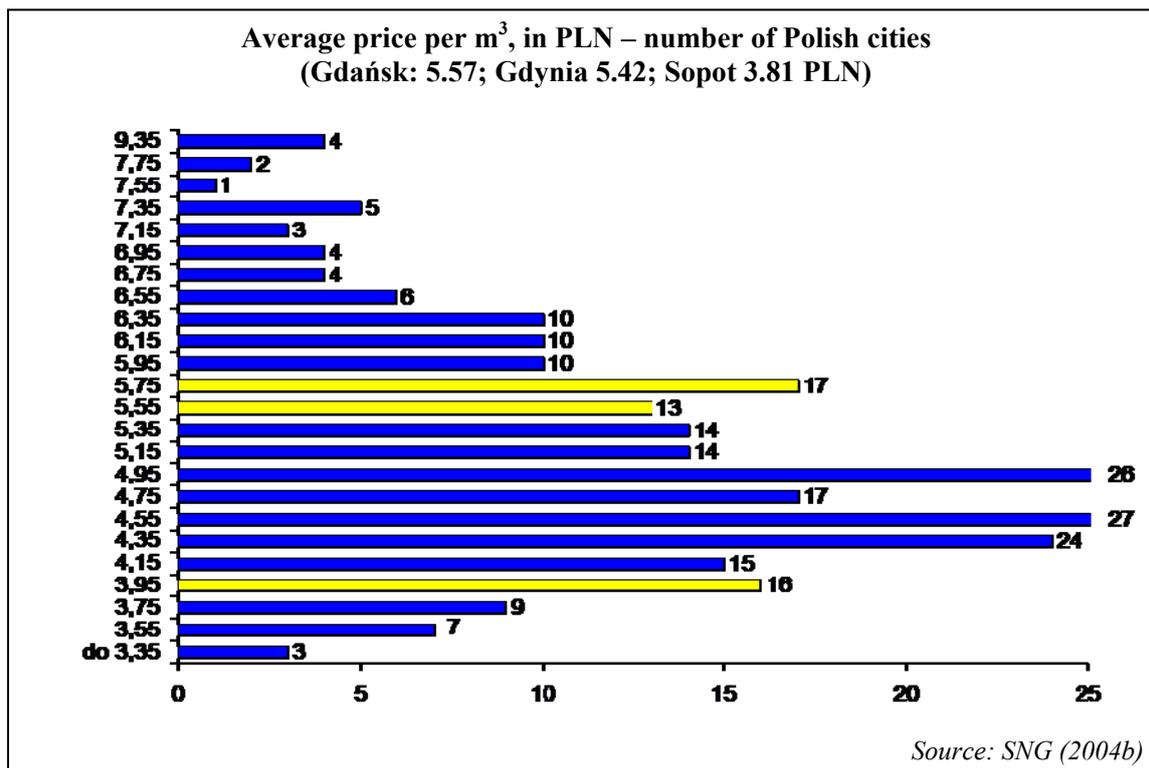


2.3 Prices

Prices are set annually by the city of Gdańsk, on advice from SNG. From 1992 to 2003 the average monthly bill decreased 3% in real terms, whilst water consumption fell an average of 52%.

**Average monthly water bill per capita in Gdańsk (in PLN),
compared to bills if 1992 bills were adjusted to match inflation (2003: 3% lower)**

Gdańsk's water price per m³ is in the mid-range for major Polish cities.



3 Episodes

3.1 1991-1993: Privatization to SAUR

3.1.1 Background

In the late 1980s and early 1990s there were a number of problems with the water and sewerage system in Gdańsk.

Drinking water

- Gdańsk is not particularly flat – there are considerable height differences, so the network is divided into 5 zones of operation within the city. There were particular supply (pressure) problems in higher-lying areas, and on higher floors of blocks of flats.
- There were network failures (763 in Gdańsk's water network in 1992¹⁴), due to the poor state of repair of the network, which meant high distribution losses (25% in 1992),¹⁵ and problems with continuity of service.¹⁶
- There was widespread dissatisfaction with water quality in Gdańsk,¹⁷ particularly acute among the 30% of customers supplied with surface water,¹⁸ which was only treated mechanically.¹⁹ Groundwater also suffered from problems, including iron, manganese, hydrogen sulphide, and saltwater intrusion.²⁰

Wastewater

- Gdańsk, with around 450,000 people, had in the early 1990s only one (pre-WWII) WWTP, Zaspá, which collected from only part of the city. It used mechanical and some out-of-date biological treatment methods. Construction of the new WWT, Wschód, had already begun in 1976. But Wschód then used only mechanical methods. Untreated wastewater went into the Baltic, leading to many of Gdańsk's beaches being closed, and hence problems for tourism.²¹

Organisational

- There were also some problems with management and organisation, especially customer relations. Efficiency of billing and debt collection was very low. There was no long-term strategy for development. There were limited financial resources to improve the situation.²²
- Problems were mainly technical, not managerial: quality was very low, especially from surface water. Prior to 1990, engineers and technical staff were familiar with the necessary modern technology and techniques, but it could not be obtained due to the lack of hard currency.²³

In Gdańsk citizens were more desperate about the existing system than elsewhere, which helped overcome resistance. "People said they would even welcome the devil if the water quality only went up!" The opposition used 'demagogy' mostly for local political reasons. It was a very stormy period, and the social problems led to the Mayor taking action.²⁴

3.1.2 1990-1: Decision to seek external investor, and negotiations with SAUR

Political change in 1989-90 led to the first democratically elected mayor, Franciszek Jamroz, conceiving the idea.²⁵ Other options than privatisation were considered, e.g. it was seriously considered to restructure as a commercial-law municipal company. It was decided to abandon the idea – mostly because of insufficient financial means.²⁶ The decision to seek an external investor was quite revolutionary; this would be the first time that foreign private capital had entered the water and wastewater sector in a Central or Eastern European country. The decision was taken in quite a hurry, very early in the first council term after 1990. "There were new roles and responsibilities, and people were still learning."²⁷

3.1.3 BOT

The first proposal to seek an experienced foreign investor was made as early as March 1990, in cooperation with the still state-owned company Opwik.* However at the time the proposal only extended to a BOT to complete the wastewater treatment plant Wschód, which was still not complete after more than a decade, and had \$1m-worth of equipment lying idle.²⁸ A newspaper report described the proposed BOT model:

“The construction of a modern sewage treatment plant is necessary. Reckoning with the financial barriers for such a project, it is proposed to construct the plant in tune with the following model:

- a joint-venture company of the regional water and sewage enterprise, the city authorities and a West European partner should be set up,
- the company would deal only with sewage treatment and be controlled by the Polish side,
- the West European partner would provide most funds (private, from EC, etc.),
- using Western expertise, the company would be responsible for projects, construction, operation and maintenance of the plant for 15-20 years,
- the costs of the investment, its operation and maintenance will be sustained by users (residents, institutions, industry), the initially moderate prices would gradually grow to balance outlays and return costs within 15-20 years,
- after 15-20 years the plant would be turned free of charge to the regional water and sewage enterprise,
- training of Polish staff and cooperation with Polish investors would be a part of this model solution.”²⁹

It is not clear exactly when and why the proposal developed from a BOT into a lease contract, but with the significant problems of water quality and reliability of supply noted above, it was perhaps a likely development for the city, faced with soon taking over responsibility for its water and sewerage system, to look for a single partner to take over and resolve all the water and sewerage issues.

3.1.4 Negotiations with SAUR

There was no tender as such; the city issued an invitation to submit offers. Other offers came mostly from Polish firms, without the required experience. There do not seem to have been any offers from any foreign firms other than SAUR,³⁰ although newspaper reports mention (without elaborating) several possible alternatives to the SAUR proposal, including an alleged alternative offer by “Dutch firm Hydroflex”³¹, and (in March 1990) “initial contacts between the city authorities and DEVITA association concerning possibilities for implementing this [BOT] model in cooperation with Danish partners...”³²

First contacts between SAUR and the city were made in 1990; negotiations took almost two years.³³ Why did SAUR approach Gdańsk? Coincidence perhaps. But SAUR was probing the Polish market – it contacted various cities, starting with the biggest cities on the Polish coast, expecting these to be more international in outlook and hence more open, and got a mostly warm response from the city authorities.³⁴

SAUR came up with an interesting offer, which was examined by the council for over a year. Initially a concession was discussed, but the final agreement was structured as a lease contract, with responsibility for investment finance remaining with the city.³⁵ There was intense public dispute about the involvement of a foreign company. It was a “strategic area” and there was resistance to involving foreigners, especially at this early stage after 1990 when there was little experience with this. The arguments against were brought by ex-communists and populists capitalising on nationalist resentment. This was 1991, shortly after the transformation – there was still a lot of suspicion of foreign investment.³⁶

* At the time the company had not yet been municipalised; the contact given in the report is for “vice-dir. for technology and operation [of Opwik] Andrzej Osinski” (*Business News From Poland*, 15 March 1990, “Water and water supply system in Poland - promoting investments”)

An obstacle to a greater financial role for SAUR (for example in a British-style privatisation of the infrastructure, or a concession) was that SAUR would have had to put in a lot of capital. This it was not keen to do, particularly given the legal environment which limited the nature of the contract that could be signed, in particular in regard to giving the company sufficient control over prices. Furthermore, as an SNG manager was later to point out, there was “no need [for] foreign capital – there is plenty of investment finance in the Polish National Environment Fund”³⁷ – and indeed this and other domestic sources were the key finance sources in the 1990s. As a result, although SAUR did provide some millions of zloty for the share capital of the joint venture company SAUR Neptun Gdańsk (SNG), the major reason the option of a commercial-law municipal company was dismissed (mostly because of insufficient financial means³⁸) did not apply significantly to the option ultimately chosen. Instead, SAUR’s offer was the most attractive because it was the most sophisticated and experienced firm.³⁹ The crucial factor was the opportunity of bringing in new technology and new modes of management. SAUR was chosen, and a contract signed.⁴⁰

Prior to negotiations with SAUR being finalised, the existing water and sewerage company went through a process called “mini-privatization”, introducing a more business-oriented approach. Positions not related to core functions were eliminated, and re-training provided for former employees. This process was partly in an anticipation of the fact that the contract with SAUR would restrict job losses.⁴¹

3.1.5 1992: Ministry of Internal Affairs approval

The city of Gdańsk initially approved the SAUR contract in December 1991.⁴² However, SAUR could not immediately begin operations due to protests from local councillors and the decision of the Ministry of Internal Affairs to initially refuse to approve the proposal on the grounds that the majority (51%) of shares would be held by a foreign company, which was considered to raise security implications.⁴³

After an appeal by the Mayor of Gdańsk, the Ministry again reviewed the proposal. Between the initial decision and the appeal, elections had brought a new administration, including a new head of the Ministry. The Ministry approved the privatization proposal in June 1992,⁴⁴ the objection to the 51% foreign ownership overcome by a requirement that key decisions must attain a 75% majority.⁴⁵

3.1.6 Further negotiations, and 1995 renegotiation

In July 1992, the publication of the contract agreement took the city council and most residents by surprise.⁴⁶ SNG was to have a 30-year lease contract to operate the water and sewerage system, with investment remaining the responsibility of the city. The city of Gdańsk owned 49% and SAUR 51% of the new company’s equity. When SNG established the company in July 1992, the city as shareholder donated fixed assets (not network infrastructure!) such as the headquarters. Independent auditing of the value of these assets led SAUR to cover the remaining 51% of the capital with cash.⁴⁷

In terms of public consultation, there were public events for example in schools, and panel discussions with the city and SAUR. The company showed their plans – when they would achieve certain water quality targets etc (they promised to achieve EC standards for drinking water within 3 years⁴⁸), when they would invest certain amounts. One of their plans was to introduce an integrated computer management system, and to gain ISO 9001 accreditation – which they did, being probably one of the first in Poland.⁴⁹

The determination of the Mayor was the major factor in the plan succeeding.⁵⁰ The Solidarnosc Mayor (Franciszek Jamroz) was seen as the driving force behind the bid, and there were accusations of political interference, if not actual corruption. There were repeated attempts in 1993 and 1994 by opposition councillors to remove him from office, including one council vote that fell short by a single vote,⁵¹ and an attempt to call a referendum on recalling the council.⁵² In 2004 Franciszek Jamroz and his deputy were convicted of corruption for accepting bribes during this period for issuing building permits.⁵³ Corruption is thought to be relatively common in Polish construction, so this is not necessarily reason to suspect foul play in the SAUR contract.

The question of the role of political pressure remains, however. The initial December 1991 agreement between SAUR and the city, and the granting of approval by the Ministry of Internal Affairs in June 1992, were followed by an 8 December 1992 visit to Gdańsk by French Minister for the Environment, Segolene Royal. She was accompanied by “representatives of leading French firms ... currently negotiating contracts concerning ecological investments in Poland”, almost certainly referring to SAUR. Following her tour of the “Wschód” plant, the Minister said that France was ready to convert 10 percent of Polish debt into investments in environmental protection.⁵⁴ As Polish Minister for Environmental Protection Zygmunt Hortmanowicz was particularly supportive of Polish-French cooperation in the water sector,⁵⁵ it is possible that there was some political pressure on Gdańsk to finalise a contract with SAUR. The 30-year lease contract was signed in December 1992,⁵⁶ taking effect on 19 January 1993.⁵⁷

The contract, which remains a secret document, was re-negotiated in 1995 after a year when demand fell below forecast and price rises (both previous ones and to compensate, as an “extraordinary circumstance”) proved controversial. “Clearer procedures were established for annual tariff negotiations and their timing, sharing and controlling information and designing a coherent annual operating plan including politically viable tariff increases. A new remuneration formula for the private operator was defined on the basis of a fixed return on capital.”⁵⁸ According to SNG, the return on capital is around 8%, and 3-4% on sales.⁵⁹

3.1.7 Gdańsk as a model

Despite expectations, no other major Polish city followed Gdańsk’s example over the next decade. “The simple fact that Gdańsk was the first city to fully privatize, and that it was initially perceived as being illegitimate, undoubtedly undermined the possibility of Polish cities moving in that direction.”⁶⁰ “It set a precedent in that it was an example of a bypassing of local democracy, and it also contributed to a negative impression of privatization and foreign investors.”⁶¹

Shortly after the Gdańsk contract, SAUR established SAUR Polska; but it did not have much success elsewhere. Szczecin looked possible: SAUR won a contract there; but a new government rejected it. More recently there was a similar story in Ruda Śląska in Silesia,⁶² with a dispute which ended in rejection of privatization after an agreement being reported.⁶³

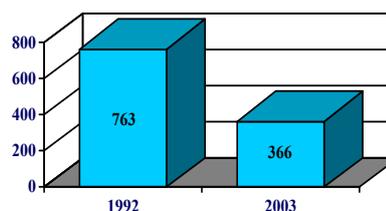
A common anti-privatization argument is that water is an “area of strategic importance”, which municipalities don’t want to lose control of. But SNG argues that through the contract and legal obligations (especially the legally-mandated annual price-setting), the council retains the final word on prices. “Privatization has however of course reduced political influence, and the annual price-setting round remains a good instrument for some councilmen to display demagoguery on the subject.”⁶⁴

3.2 Outcomes: price, water quality rises

Some successful outcome improvements:

- construction and operation of water tanks in order to stabilize water pressure in network
- Leakage of over 25% in 1992 reduced to around 15 % in 2003
- number of pipe bursts reduced by over 50%
- Reduced average payment period from 93 to 40 days, 1992-2003
- 31% reduction in employment, without compulsory redundancy
- Consequent improvement in productivity: 1.7 km of network per employee in 1992, 3.2 km in 2003⁶⁵

Pipe bursts in Gdańsk water network



Source: Gdańsk (2003)

3.2.1 Prices

Water supply and sewage collection – tariffs in selected cities as of October 20th, 2003 PLN/m³ (7% VAT included)

The lowest tariffs (of 20 cities – only 6 shown here) in *blue*; the highest in *red*; case study cities *bold*

City	Services provided to private consumers			Services provided for industrial purposes			Other		
	Water	Sewage	Total	Water	Sewage	Total	Water	Sewage	Total
Warszawa	2,16	2,65	4,81	2,16	2,65	4,81	2,16	2,65	4,81
Bytom	3,95	2,76	6,71	3,95	2,76	6,71	3,95	2,76	6,71
Gdańsk	2,59	2,53	5,12	3,39	3,52	6,91	3,39	3,52	6,91
Koszalin	1,55	1,92	3,47	1,55	1,92	3,47	1,55	1,92	3,47
Łódź	1,96	1,48	3,44	2,29	2,50	4,79	2,29	2,50	4,79
Ostrów Wielkopolski	2,14	5,20	7,34	2,40	5,20	7,60	2,40	5,20	7,60

Source: adapted from Czarzasty (2004)

Under the annual price-setting procedure, the company presents proposed tariffs for the next year to the mayor. A Council commission consults with communities and invites comments.⁶⁶ Price-setting negotiations are between SNG and the Mayor, not the council (legislative). Proposals go to the council to be voted on. The Mayor is primarily concerned with keeping prices down, for political reasons (despite the city's 49% share in SNG). Similarly the council has always pressed for lower prices. The final choice of whether the increase prices (leading to increased dividends for the city) versus increased tax is ultimately a social one and the Mayor/council choose on that basis.⁶⁷

The SNG Supervisory Board has representatives both from the city and from SAUR. The contract specified that the city retained the right to approve tariffs annually (as was and is Polish law). A key clause in the contract is that the price increase cannot exceed inflation in the previous year; unless there are exceptional circumstances (e.g. when some housing associations introduced individual metering, or for exceptional demand fluctuations). This clause has been there since the beginning.⁶⁸

No-one expected such rapid decrease in demand from metering – which led to decreased revenue. This meant the price per unit increased, and the share of fixed costs went up. The price was increased several percent to compensate SAUR's losses associated with this (as an 'exceptional circumstance').⁶⁹ "Tariff adjustments have been subject to political considerations. Successive tariff increases below the rate of inflation have undermined the financial capacity of SNG. The uncertainty involved in the negotiations between the municipal council and the company have delayed proposed investments."⁷⁰

Gminas are not allowed to use depreciation of fixed assets. SNG pays a lease fee out of customer revenues. SNG proposes tariffs to city, not including lease rent. The mayor is authorised to add to this the rent, and makes a finalised proposal to the city council. In 2004 around 30% of revenue went to the city, paid monthly. No management fees are paid by the city. The profit margin is derived from the capital of the company – around 8% return on capital; around 3-4% of sales.⁷¹

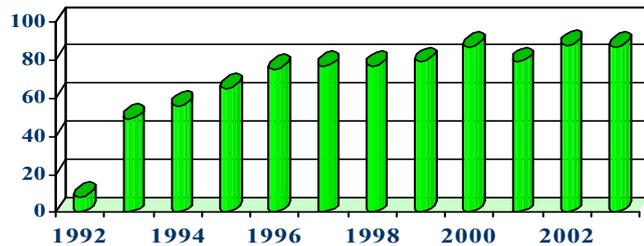
3.2.2 Water quality

In 1992, only 8% of Gdańsk water met EU standards. A key issue in the contract was the rapid improvement of water treatment stations for surface water – needing new technology to be designed, bought, and implemented. The station called Straszyn (after a town) was the first to achieve EU standards.⁷² In 1994, ozonation equipment and carbon adsorption filters were installed in the Gdańsk water system, dramatically improving water quality.⁷³

“By the middle of 1995, the company had won a grudging respect from local residents, in part because Gdańsk became the first major city in Poland with drinking water which meets EU standards.”⁷⁴

In 2004, EU standards compliance is around 90%. Not reaching 100% is mostly due to increased standards on iron content.⁷⁵

% volume of Gdańsk water meeting EU standards



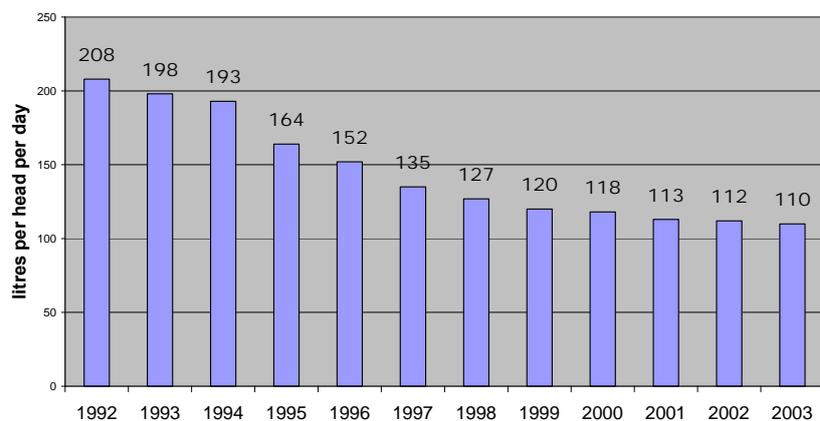
Source: SNG (2004b)

3.3 Water resources and demand

Before 1990 there had been very high and unreasonable (wasteful) use of water, because of the subsidised price. Probably 1992 was the first regulation (Ministry of Housing, Construction and Development) – each apartment within a block should be metered.* Now there is nearly universal metering, and water demand has dropped around 50% from 1992, to around 112 litres per person per day. Demand is still not quite stable, dropping around 2% per year. It was mostly left to customers to reduce water demand, but SNG’s customer relations department did have educational programmes (explaining reasons behind the price) and encouraged economising. In 1990 metering was very low – often even blocks of flats were not metered. Payments were based on norms. For a typical apartment the norm was 7.5 m³ per person per month.⁷⁶

During 1993, SNG installed over 800 meters;⁷⁷ there are now over 30,000.⁷⁸ As a consequence of tariff increases and meter installations, average household consumption fell by 15% in a single year in 1995, after falling less than 5% in the previous two years. This led to SNG making its only annual loss so far.⁷⁹ This was the most dramatic annual fall over the period, which saw a total decline of 52% (1992-2003). No-one expected such a rapid decrease in demand from metering – which led to decreased revenue. This meant the price per unit increased, and the share of fixed costs went up. The price was increased several percent to compensate SAUR’s losses associated with this (as an ‘exceptional circumstance’).⁸⁰

Gdańsk average household water consumption



Source: SNG (2004b)

“The example of Gdańsk demonstrates quite clearly dramatic changes in the amount of water used as a response to higher tariffs. Even historical analysis that assesses demand for price elasticity levels in the past does not guarantee a similar development in the future.”⁸¹

Currently there are two groundwater sources, and one surface water. The surface water source (a lake) currently provides 20% of supply.⁸² A main objective over the next 20 years is to move to groundwater only,

* The Ministry of Construction and Spatial Planning introduced the requirement to install water meters in new buildings as of January 1, 1992. (Business News From Poland, 15 March 1990, “Water and water supply system in Poland - promoting investments”) Installation in existing buildings was widespread in the mid-to-late 1990s, partly under pressure from consumer organisations as well as national government.

which requires rearrangement of the whole network (to provide for appropriate pumping etc – Gdańsk has some hills) and groundwater development. The primary motives are quality and cost: surface water requires more treatment to meet EU standards; and is generally inferior in taste.⁸³

3.4 Investment finance

Financing investment is the responsibility of the city, as the owner of the assets. There is a clause in the contract by which some of the fees (lease rent) go to the operator, and some to the infrastructure owner, to pay for investment. In 2004 around 30% of revenue went to the city, paid monthly.⁸⁴ The proportion is commercially confidential.⁸⁵

SNG often acts as subcontractor for investment projects from the city. These are not subject to tender, but new EU funding would lead to tenders for some projects.⁸⁶ SNG presents ideas on investment to the city, for example to improve water quality on Gdańsk beaches – the city is responsive to company demands and proposals. There have been some minor disagreements over company demands which city disagreed with, but generally there is agreement through the long-term strategy, devised 1992 and updated repeatedly. The Act on Collective Water Supply and Sanitation in 2001 obliged companies to prepare a long-term strategy, which was in place already in Gdańsk. Each year the city passes the budget, the company presents proposals for the year to be included in the budget.⁸⁷

The company established a special unit, the Office of Research Studies, to advise the city. One of the 1992 contract conditions was an obligation on SAUR to produce a 10-year study on network development. A key issue in the contract was the rapid improvement of water treatment stations for surface water – needing new technology to be designed, bought, and implemented. The station called Struskin (after a town) was the first to achieve EU standards. In 1992, 8% of Gdańsk water met EU standards; in 2004 it is around 90%. Not reaching 100% is mostly due to increased standards on iron content.⁸⁸

“Although the revenues are not enough to cover all funding requirements, they have made a positive contribution. Financial restrictions have affected the pace of investment. Under the private sector arrangement, funds for capital investment come from operating surpluses. Revenue to the municipal council has not been sufficient to generate the necessary resources for investment and to improve creditworthiness.”⁸⁹

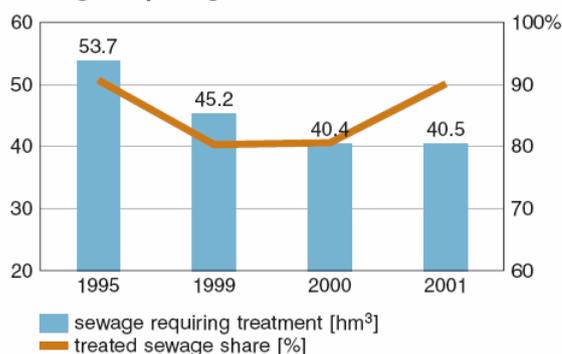
3.4.1 WWT plant ‘Wschód’

The central mechanical treatment plant ‘Wschód’ with a total flow of 180,000 m³/d was constructed in 1976. Chemical treatment to remove pollutants more effectively was not introduced until 1993.⁹⁰

Between 1996 and 2001 Wschód was extended and modernised, costing around 200m PLN or perhaps 400m PLN (c €100m).⁹¹ It was probably the biggest in Poland then and may still be. It serves the entire city and also takes some wastewater some from Sopot. (SAUR’s contract also covers Sopot.)⁹² There were a number of competitive tenders for specific parts of the project, with Budimax (a Polish firm) as general contractor.

The city applied for a World Bank loan, Phare, and National Environment Funds loans, and avoided commercial credit except as an interim measure.⁹³ The Wschód plant was mostly financed by credits from the National Environment Fund, and some funds from the city. No other sources in 1996 were used to pay for the plant.⁹⁴ Such a big investment naturally led to prices being raised. A gradual depreciation of the investment was needed.⁹⁵ Major credits were taken by the city to pay for Wschód, leading to heavy debts for the city –

Sewage requiring treatment



Source: Gdańsk (2003)

dangerously close to the legal maximum (see Poland National Context Report).⁹⁶ Recently a project has been prepared with EU funding, worth 460m PLN. This involves network modernisation and the shutting down of the old WWT plant (Zaspa). The project has passed the first approval stage of the Ministry of Environment.⁹⁷

3.5 2004: Asset Holding Company

Up to 2004 there had been no major problems setting prices. This year there were some problems around the details of a restructuring. The city wants to pass its ownership obligations relating to the infrastructure to a city-owned commercial-law company – an “asset-holding company” (AHC), to be named Gdańsk Water and Wastewater Infrastructure Company (GIWK). This would make it easier to obtain credit and EU funds, with GIWK able to get credits in its own right. Also, under commercial law, GIWK will be able to deduct VAT (22%) from costs, which the city cannot. GIWK was established 1 July 2004, and begins operations 1 January 2005.⁹⁸

Where the owner is also the operator (especially with private involvement), it is advisable for applying for EU funds to create an AHC to clearly separate the roles. Major credits were taken by the city for example to pay for Wschód WWTP, leading to heavy debts for the city – dangerously close to the legal maximum⁹⁹ (60% of the budget – exceeding this leads to central government stepping in and taking control of the city administration).

The creation of an AHC means essentially no change for SNG – minor amendments will be made to contract but the position is much the same. “Rent” to city is an “implicit lease” and this money probably will go to GIWK. The lease will have to become explicit. The AHC cannot legally be part of the price setting process (2001 Act) – it is the duty and right of the operator to propose prices and of the council to make the decision.¹⁰⁰ Finally, currently not all the rent paid to the city is spent on water infrastructure – some of it is used to cross-subsidise other city investments. Although such an arrangement may still be possible, it is less likely. The change would also enable SNG to be more active in investment decisions.¹⁰¹

An application has already been made to the EBRD for a loan to GIWK to support among other things the decommissioning of the older WWTP, Zaspa.¹⁰² It commented on the AHC plan that:

“Currently investment decisions in the City are taken based on political criteria and with limited input from the asset operator. Moreover, only part of the leasing charges, which are equal to water and waste water asset depreciation are actually spent on renewal of these assets, resulting in a cross-subsidy from water charges to other investments. Concentration of investment planning and water asset management responsibilities into the GIWK, as a separate commercial code company (though owned by the City) would make the process more commercial, facilitate involvement of the current private operator (SNG) in the planning process and ensure that all funds from leasing charges are spent on related investment or service of debt incurred to finance such investments, thereby eliminating the cross-subsidies.”¹⁰³

4 Participation and sustainability

In July 1992, the publication of the contract agreement took the city council and most residents by surprise.¹⁰⁴ Despite the universally-acknowledged dire state of the system, there was some resistance to foreign involvement to overcome. In terms of public consultation, there were public events for example in schools, and panel discussions with the city and SAUR. The company showed their plans – when they would achieve certain water quality targets etc (they promised to achieve EC standards for drinking water within 3 years¹⁰⁵), when they would invest certain amounts. The privatization went ahead despite strong scepticism from some quarters, and the controversy involved was so great that it had knock-on effects on privatization debates elsewhere in Poland. Nonetheless, the company’s performance won much of the public round within a few years.



For some years SNG has had a policy of being a “transparent enterprise” and actively sought dialogue with its consumers. In 2003 this included the third consumer survey, organisation of two public debates on water operations and investment, and several Open Days. Open Days involved visits by SNG employees to secondary schools and colleges, and a visit by students to the company headquarters.

Sustainability was a key issue, with the completion and modernisation wastewater treatment plant motivated above all by environmental sustainability concerns. These sustainability concerns were shared at every level (local, national, international/EU), and the availability of financing from a number of sources ensured that after years of delay due to financial problems these concerns could be translated into action.

Annex: data tables

Water and wastewater undertaking profile

Undertaking identification	SNG
Geographical scope	Gdańsk city and environs including Sopot
Type of activity	Water supply and sewerage and WWT
Type of assets ownership	Public (assets owned by city of Gdańsk)
Type of operations	Mixed (SNG 51% owned by SAUR, 49% by city of Gdańsk)
Total personnel	701 (1/1/2003)
Total customers	510,000 inhabitants served 33,201 connections
Total meters	27,890 (Gdańsk) 3,400 (Sopot)
Company capital	7.75m PLN
Annual costs (PLN/a)	133.4m PLN
Annual revenue (PLN/a)	132.7m PLN (€28.2m at 31/12/03 rate) income from water and sewerage; 139.4m PLN total revenue.
Average annual investment (PLN/a)	2.097m PLN (SNG not responsible for most of investment)
Tariffs (EUR/m ³)	5.57 PLN (Gdańsk) – €1.33 (23/11/04 rate) 3.81 PLN (Sopot) – €0.91 (23/11/04 rate) See section below

Source: SNG (2004a); 2003 figures unless otherwise stated

Region profile

DEMOGRAPHY AND ECONOMICS	
Population density (persons/km ²)	1744 (Gdańsk)
Gross National Product per capita (EUR/capita/a)	€9410 (Poland, 2001) ¹⁰⁶
ENVIRONMENT	
Yearly rainfall	667mm (average Poland 2002) ¹⁰⁷

Performance indicators

CUSTOMER COMPLAINTS	
WATER LOSSES	
Non-revenue water by volume (%)	6.45%
Water losses by volume (%)	Gdańsk network: 14.46% ¹⁰⁸ Sopot network: 9.00% ¹⁰⁹
Sewer network leakage (%)	18.97% (proportion of treated wastewater not paid for by consumers) ¹¹⁰
FINANCIAL DATA	
Unit total costs (EUR/m ³)	4.30 PLN/m ³ (Gdańsk and Sopot) ¹¹¹ €1.023/m ³ (23/11/04 rate)
Unit annual revenue (EUR/m ³)	4.43 PLN/m ³ (Gdańsk and Sopot) ¹¹² €1.054/m ³ (23/11/04 rate)
Unit investment (EUR/m ³)	0.07 PLN/m ³ (Gdańsk and Sopot) ¹¹³ €0.0167/m ³ (23/11/04 rate) (SNG-financed investment only)
PERSONNEL	
Total personnel per 1000 connections (n°/1000 connections)	21.11

Source: SNG (2004a); 2003 figures



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- ¹⁷ Interview with Alexander Żubrys (SLD councillor, Gdańsk), 30/9/04
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- ¹⁹ Swinarski (1999:1)
- ²⁰ Moran (2000:149)
- ²¹ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04
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- ²³ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04
- ²⁴ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04
- ²⁵ Interview with Antoni Szczyt, Head of Gdańsk Municipal Engineering Department, 29/9/04
- ²⁶ Interview with Alexander Żubrys (SLD councillor, Gdańsk), 30/9/04
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⁵¹ “On January 11 the City Council voted for the third time for his dismissal and came short of one vote in doing so. Jamroz is accused of mismanagement and faulty judgment in selling the gmina's property.” (*Polish News Bulletin*, 25 January 1994, “SLD and PSL Want Receivership in Gdansk”)

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⁵⁸ Fay (2003:12-13)

⁵⁹ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04

⁶⁰ Moran (2000:172)

⁶¹ Moran (2000:177-8)

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⁷¹ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04

⁷² Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04

⁷³ Moran (2000:149)

⁷⁴ Moran (2000:149)

⁷⁵ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04

⁷⁶ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04

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⁸⁰ Interview with Alexander Żubrys (SLD councillor, Gdańsk), 30/9/04

⁸¹ Fay (2003:10)

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⁸⁴ Interview with Josef Iwaniuk, SNG Director of Development, 30/9/04

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- ¹¹¹ $133.429\text{m PLN} / 31\text{m m}^3 = 4.30\text{ PLN/m}^3$ (average Gdańsk and Sopot) – source: SNG (2004a). (Annual running costs + annual capital costs) / authorized consumption (including exported water)
- ¹¹² $137.298\text{m PLN} / 31\text{m m}^3 = 4.43\text{ PLN/m}^3$ (average Gdańsk and Sopot) – source: SNG (2004a). (Annual operating revenues – capitalised costs of self constructed assets) / authorised consumption (including exported water).
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