

Germany's water infrastructure: The plight of Kharkov is not far away

by Lothar Komp

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Whoever visits a typical western Ukraine household will be presented with a picture something like the following: Hanging beneath the ceiling is a large water bucket, out of which protrudes a hose that leads into a washbasin. With the help of a valve, a couple of times a day, it is possible to use the water collected in the pail to wash your hands or for similar purposes. All of the water faucets are always turned on and surrounded by extra water vessels, because at any time of the day, without warning, fresh water may suddenly come spurting out of the pipe. Not warm water, though, because heat in the winter is a lot more important than warm showers or baths in the summer. Housewives who go shopping nowadays, take one or two buckets along. After all, they might be able to fill them up at some source of water along the way.

The breakdown of public infrastructure resulting from the decades-long neglect by the Soviet system, has been further exacerbated by the devastating International Monetary Fund shock therapy policies imposed over the past few years. This has not merely made water scarce, but now, even the temptation to take a drink of water makes the criminal neglect of the necessary infrastructure investments more and more evident each day. In the middle of July, the million or so residents of the city of Kharkov in eastern Ukraine were urged—providing they were in a position to do so—to quit the city for up to a week. The drinking water was confirmed to have become contaminated with the cholera agent, and an outbreak of a cholera epidemic was to be feared. Two weeks previously, torrential rains had led to leakage of the Kharkov sewage system, so that sewage succeeded in fouling the rivers. Drinking water now had to be provided by neighboring cities.

In Moscow, meanwhile, emergency measures were ordered, because, in the water there, not only was the cholera agent spreading, but also those of tuberculosis and diphtheria. The plan was, that through a ban on bathing and putting strict food preparation control measures into effect, the worst might be prevented. Here, too, the breakdown of the sewage disposal system and the resulting plague of the uncontrolled

rat population is a direct result of the discontinuance of public investment.

Is the possibility of similar things happening in Germany inconceivable? Isn't it the case that the necessary investment in the German water-supply system is already several hundred billion deutschemarks in arrears? The narrow-minded, budget-austerity policy matrix approach of German Finance Minister Theo Waigel, the decline in municipal capital investment in public works, and the more and more stridently declaimed proposals for privatization of the German water supply systems are, in any case, pointing exactly in this direction.

Where does our usable water come from?

Germany is blessed throughout its extent with ample rainfall and inland waters. During 1994, the volume of precipitation bestowed on Germany was 274 billion cubic meters, which, if you calculate it out, works out to about 9,260 liters per capita per day. In addition, there is an influx of water via sources that flow into Germany from beyond its borders of 69 billion cubic meters, which amounts to 2,330 liters per capita per day. More than half of this, to be sure, evaporates, such that, ultimately, we are presented with a 164 billion cubic-meter, or 5,540 liter per-capita per-day water endowment, so to speak, at our disposal.

Only 30% of this quantity of water, roughly 1,600 liters, will be utilized in any way by either household or commercial consumption (see **Table 1**). The preponderant portion, namely, 950 liters, will be put to use solely as cooling water for thermal power plants. The specific types of consumption of water, such as that within industry itself (see **Figure 1**), as

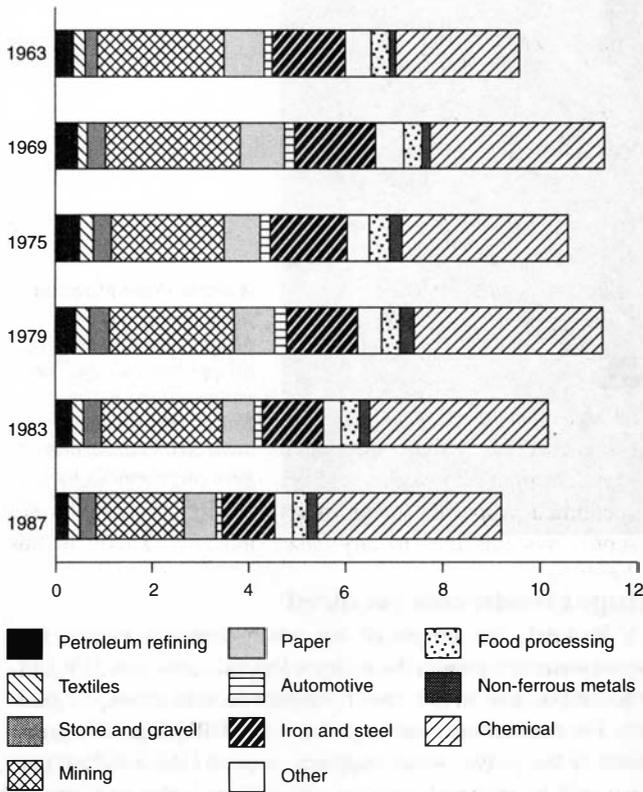
TABLE 1
Yearly water requirement in Germany
(billion cubic meters)

Cooling water for thermal power plants	28.8
Public water supplies	6.5
Industry	11.0
Agriculture	1.6
Total	47.9

FIGURE 1

Water utilization in German industry

(billion cubic meters)



Source: German Federal Statistics Bureau, *EIR*.

well as that of the public water supply (see **Figure 2**) and of agriculture, therefore amounts to approximately 650 liters per capita and per day, or 4% of the usable water endowment. Thus, on the basis of the natural water cycle alone, theoretically, 2 billion human beings could be plentifully supplied with water on the land-area of the Federal Republic of Germany. From the 650 liters of usable water that are consumed per day for each citizen of Germany, there are allocated 400 liters to industry, 100 liters to agriculture, and the remainder is consumed in households (see **Figure 3**).

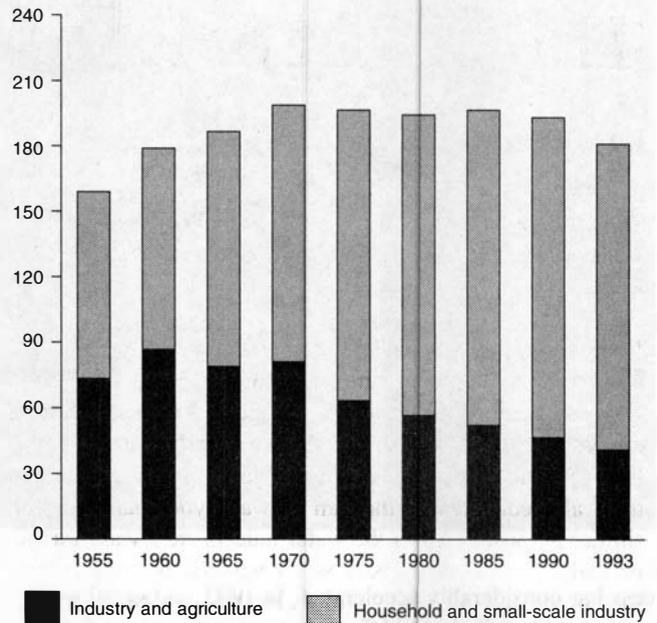
Industry is approximately 90% self-supplied with water. Nonetheless, since the end of the 1970s, water extraction and production in the mining and manufacturing industries has been considerably retrograde. A particularly ironic subsidiary effect of the decline in mining, is that both after this happened, as well as beforehand, we note a significant growth in the overall extraction of ground- and springwater, within all sectors of the economy taken as a whole.

Even in manufacturing industry, water consumption is reverting downward, and, in the most recent years, this pro-

FIGURE 2

Water consumption from public water supply

(liters per capita and per day)

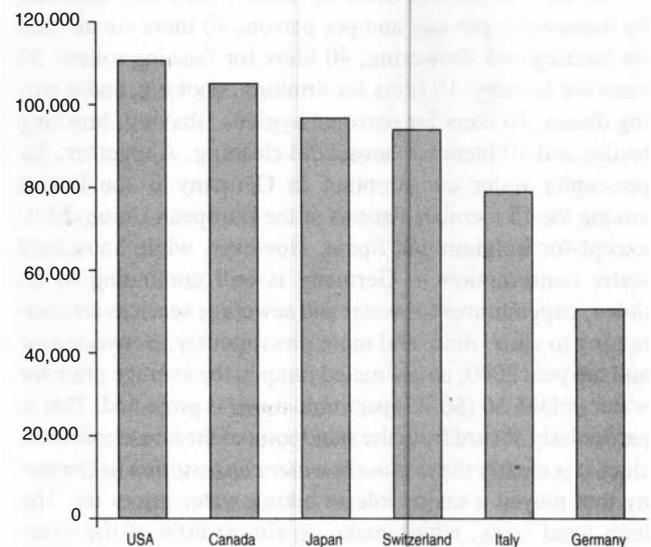


Source: United Federal Gas and Water Utilities of Germany (BGW), *EIR*.

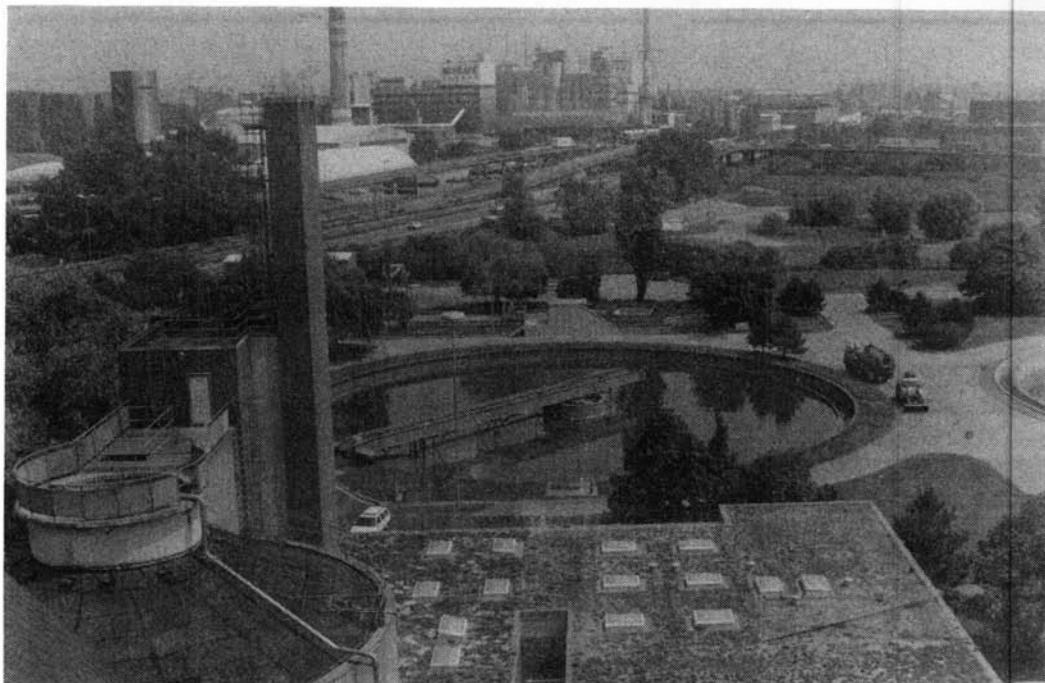
FIGURE 3

Household drinking-water consumption

(liters per capita and per year)



Source: World Resources Institute, OECD, BGW, *EIR*.



A waste water filtration plant for the city of Mainz. The treatment is all mechanical, and the water returns to the Rhine. Investments of some \$200 billion are needed, primarily for such plants, over the next 15 years.

cess has considerably accelerated. In 1993, industrial water consumption fell about 11%, and, even in the newer federal states (those formerly East Germany), it dropped by about 19%. Compared with the level in 1990, water output of the public waterworks in the newer federal states has been nearly halved, above all, due to plant shutdowns and the curtailing of production in the industrial sector. In western Germany, industry today draws only half the amount of water from the public water mains as it did 25 years ago. Simultaneously, West German industry's own water production shrank around 20% from 1979 to 1981.

Of the 150 liters of drinking water which are consumed by households per day and per person, 40 liters are allotted for bathing and showering; 40 liters for flushing toilets; 30 liters for laundry; 15 liters for drinking, cooking, and washing dishes; 10 liters for personal hygiene (shaving, brushing teeth); and 10 liters for household cleaning. Altogether, the per-capita water consumption in Germany is the lowest among the 15 member-nations of the European Union (EU), except for Belgium and Spain. However, while household water consumption in Germany is still continuing to go down, expenditures for water and sewerage services are continuing to climb more and more precipitously. Between now and the year 2000, an estimated jump in the average price for water of DM 10 (\$6.25) per cubic meter is projected. This is particularly absurd from the standpoint of the household unit, since it is clearly the *decline in water consumption* in Germany that played a major role in hiking water prices up: The high fixed costs, which make up almost 80% of the water price, must now be apportioned out among a smaller amount of water.

Huge investments required

In 1991, the length of the sewer-drainage system for wastewater removal in the western federal states was 319,134 kilometers, and in the newer, eastern federal states, 37,960 km. For maintenance and improvement of the plant and equipment of the public water supplies, around DM 3 billion per year will be invested. Of that, the preponderant part, about 60%, goes into the sewer-drainage network. The costs incurred for extraction of water supplies scarcely comes to 10%, and water treatment just about reaches 9% on the book costs. Although in 1970 the public water utilities still reinvested 51% of their net proceeds, this proportion fell by 1985 to 32%, and has since then remained somewhat constant. During this time period, there accumulated in the older federal states an enormous catch-up requirement for investment in the sewer-drainage system and other plant and equipment of the water supply system. On top of this, is added the desolate condition of the water networks in the new federal states.

According to the estimates of the United Federal Gas and Water Utilities (BGW), there exists an investment requirement in Germany for filtration plants, sewer system construction, and rainwater drainage control over the next 15 years of up to DM 300 billion. Half of this is required in western Germany, primarily for sewer systems and filtration plants, and half in the east, primarily for complete wastewater treatment and drainage systems. (See **Table 2** for spending levels of West German states in 1990.) In these areas, therefore, DM 20 billion per year needs to be spent for water system infrastructure. The conversion and upgrading of the sewage systems within the older federal states to EU-regulated standards will by itself require DM 130 billion in investments.

TABLE 2

Construction costs for water-system and waterway improvement

(West German states in 1990, million DM)

Dams, floodwater containment basins	157
River regulation and control	262
Drinking-water supply	911
Sewer conduit systems	3,113
Filtration plants	2,444
Coastal protection	214
Inland waters flood protection	363
Other	382
Total	7,847

Source: Federal Statistical Bureau, Wiesbaden

Instead, however, in the first three quarters of 1994, the construction outlays for sewage systems were drastically cut, by 17.9% in western Germany and 20.5% in the eastern states. Considering the financial distress faced by the municipalities, which are suffering under the collapse of corporate and business tax revenue receipts and a ballooning of worsening environmental regulations, this should come as no surprise.

Through the expenditure of billions of deutschemarks by German industry for environmental protection measures, the water quality of the German rivers has been significantly improved over the past 20 years. According to a report published in *Wirtschaftswoche* (issue 25/1995), for example, the oxygen content of Rhine River water has increased from 1974 to 1994 by 50 to 96.2%, and the number of fish species in the same time increased from 23 to 55 (see **Table 3**).

However, even more quickly than the quality of the Rhine waters was improved, were the environmental protection injunctions made more stringent for the drinking-water supply. According to the opinion of many experts in Europe outside of Germany, at the same time, the German regulations had already exceeded the bounds of every reasonable criterion a long time ago. In any case, there are attempts currently ongoing within the EU to somewhat relax the drinking- and mineral-water standards, since most of the member-states do not generally see themselves as being in a position to carry out the high level of investments mandated for this otherwise. Even after such a change, the water qualities still ought to be more than adequate, insofar as there is no question about any risk to health here. In contrast, the Germans are naively running into the face of the storm presently, because, in contrast to their EC neighbors, the Germans have already invested DM 35 billion into conversion in order to meet the EU standards and the even more stringent German drinking-water regulations.

How will these necessary investments be made, given that the public debt is climbing toward the DM 2 trillion ceiling? (Under the "Maastricht criterion," the EU member-

TABLE 3

Rhine River water quality

(micrograms per liter, inland survey station)

	1974	1994
Zinc	240	23.33
Mercury	0.55	less than 0.05
Cadmium	2.4	0.08
Chromium	73	2.58
Lead	59	under 2
Copper	37	6.86
Phosphorus	800	12

nations agreed to strict ceilings limiting permissible national indebtedness.) These austerity dictates are being leveled against public infrastructure investment and within a financial situation of unprecedented desolation on the municipal level. How it is then possible that these investments can be accomplished within these circumstances, only the stars know.

Privatization: the example of England

But, of course, the Free Democratic Party (FDP) knows the way to go from here: the privatization of the German water-supply industry. Presently, it is said that the municipalities are not at all in a position to know how to competently handle the billions of deutschemarks of investments that are at issue here. Once the waterworks were to first become privatized, it would be possible to "mobilize economizing measures" (i.e., free-marketeer Newspeak for radical cost-cutting) and thereby "save many billions."

In the summer of 1995, FDP environmental expert Birgit Homburger flew all over Germany for three days, visiting one filtration plant after the other. Her message: "Far too few municipalities are making use of the opportunity to lower construction and operating costs through either privatization, or organizational forms set up along private-enterprise standards." Further, in the newer federal states, private sewage disposal systems would be a fine thing, especially now, since the municipalities won't have any money for the necessary investments anyhow. A widespread underground sewer-conduit network would be superfluous in thinly populated areas. Small, decentralized filtration pits would do the trick.

Isn't it high time for us Germans to declare "anchors aweigh" and get on with the majestic and exalted private duty of elimination of waste, by enacting a new law governing household water usage.

Those who constantly preach privatization here in Germany, ought first of all to take a look at the scapheaps that Thatcherism has left in its wake on the other side of the Channel. According to the July 16 London *Observer*, a menacing plague of rats was then raging throughout the water

network, following wide-ranging privatization of Great Britain's water systems. This has as its main cause the cutbacks in maintenance of the water networks. The annual expenditures for pest control in Wessex have been reduced by 40% compared to the level before privatization. Indeed, if preventive measures in the sewerage system were being carried out as regularly as they still are in the health establishments, then the private water suppliers would certainly have to decide to increase the extent and frequency of such preventive maintenance activities.

An official in the health bureau of Yorkshire made the following point: Based on the continuing cutbacks in expenditures for the maintenance of the sewerage system, the private waterworks of Yorkshire were in a position to pay higher dividends to their shareholders. However, the number of rat-infested dwellings, and the number of illnesses spread by rats, are horrendously and alarmingly climbing. In the city of Leeds, rats have currently permanently established themselves in 10,000 homes. Now, for the first time, things have gotten so far out of hand that countermeasures have proven completely useless, or too expensive.

And in Germany?

In Rostock, in April 1993, the private firm Berliner Eurawasser GmbH, a daughter company of the French Lyonnaise des Eaux and Thyssen Handelsunion, contracted to run the water supply for 25 years, and since then has invested about DM 25 million. In total, close to DM 1 billion in investments in filtration and sewerage networks need to be made. It is the largest private model of water supply and wastewater disposal in Germany.

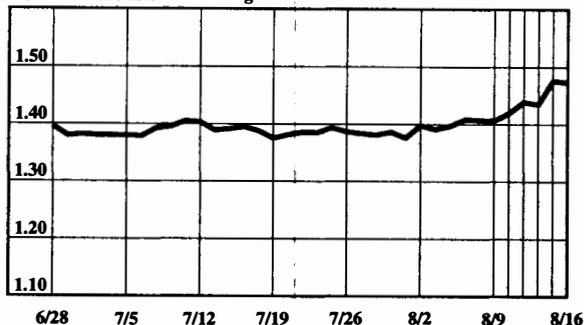
Now, the collapse of industry and the withering of purchasing-power of households is throwing all of the calculations of such enterprises out the window. In 1989, the water consumption in this area amounted to 38 million cubic meters. The calculations for the privatization of the public water supply had, as an underlying assumption, the estimate that water consumption would ultimately stabilize itself at 22 million cubic meters per year. In the meantime, however, it has already fallen to 17 million cubic meters per year, and is expected to continue to fall further. The result: The price increases are heftier than they otherwise would have been.

In some states in eastern Germany, there has even been a wave of refusals to connect to the public water networks. According to a report in the July 14 *Frankfurter Allgemeine Zeitung*, drinking water in this region is increasingly being drawn out of old wells, while fecal matter is being disposed of on dwellers' own property, for cost reasons. In the rural district of Dahme Spree, for example, in general, only 8% of drinking water supplies are connected up to water mains, and nobody is connected to the sewerage system at all. The evil mixture of eco-fundamentalism, deindustrialization, and privatization stinks to high heaven. Kharkov is not as far away from Germany as many may think.

Currency Rates

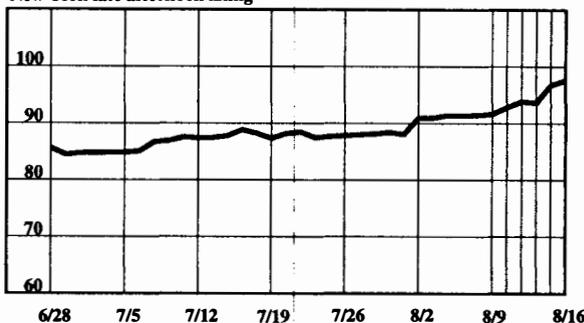
The dollar in deutschemarks

New York late afternoon fixing



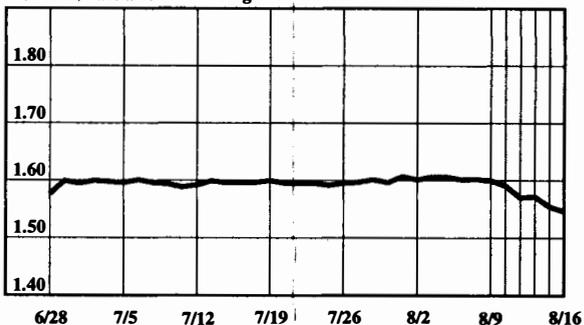
The dollar in yen

New York late afternoon fixing



The British pound in dollars

New York late afternoon fixing



The dollar in Swiss francs

New York late afternoon fixing

