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DRIVING FORCES BEHIND ORGANISATIONAL CHANGES IN WATER SUPPLY IN SOUTH SWEDEN 1950–2010

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Abstract

Sydvatten (South Sweden Water Supply Co) was formed in 1966 by the municipalities of Malmö, Lund, Helsingborg, Landskrona and Eslöv for organizing and jointly financing the construction of an 80 km long raw-water tunnel leading water from the large lake Bolmen to the vicinity of the municipalities, and thereafter operating the tunnel and the waterworks where the drinking water is produced. In the 1970:ies seven more municipalities in west Scania joined Sydvatten. In the beginning of the 21st century, the board of Sydvatten asked the management for ways to increase drinking water sales to others, non-Sydvatten municipalites, to take advantage of the modern waterworks and the treatment capacity. Since 2005, another four municipalities have chosen to join Sydvatten, and possibly others will follow. Important reasons for Sydvatten to get new customers have been to take advantage of the already made investments in water supply and use the surplus production capacity in the waterworks. Important reasons for the new members of Sydvatten to join has been high costs in refurbishing old waterworks, problems in finding skilled workforce to replace the retired personnel in the water supply sector, and a general acceptance for the idea of cooperating on different arenas instead of operating separate organisations for everything in each municipality.

Key words – Sydvatten, water supply strategies, Sweden, 1950–2010

Introduction

An organized water supply of towns was scarce in Sweden until the middle of the 19th century. If any, it was mainly done through common wells or possibly jetties built in the rivers or lakes where water could be fetched. Up to the mid and late 19th Century, the prime reason for water supply in the urban areas was its use for combating fire. During the middle of that century some bad outbreaks of cholera in Stockholm and Gothenburg killed a large number of inhabitants. This prompted the construction of networks of water mains conveying good quality water to the consumers for health reasons. To develop water supply and later on sanitation, became a central task for municipalities, which since the early 20th century has been the outspoken manager of virtually all the urban water service systems (WSS) in Sweden.

From 1900 until 1970, the water demand per capita increased constantly with a growth factor of 1 % a year. Improved hygienic conditions, introduction of water closets in all households, strong growth of water use in industry and increased urban population caused the water managers to search for richer raw water supplies. The general way of organising WSS in Sweden has been to keep it under municipal control. In the late 19th century, the emphasis was on municipalisation. Democratically elected city councils bought existing utilities and transport systems and set up new ones of their own. This resulted in more efficient control, higher employment, and greater benefits to the local people. Councils also gained the right to borrow money to invest in the development of their own systems. Skilled city water engineers employed by the municipalities saw a pride in developing the WSS of the municipality and they could engage the leading politicians in this task. Often, a competition among the larger municipalities stimulated them to be at least as good as the neighbouring municipalities regarding drinking water services. The importance of water for the environment, and the welfare of

households as well as industry, makes water governance an important question from an ecological, economic, and political point of view. In Sweden the responsibility of distributing and treating water and sewage is a municipal obligation. Ever since the beginning of the 20th century, water supply and sanitation including the management of stormwater has been the task of the municipality.

The introduction of bathrooms and WCs led to severe conditions in the receiving waters with oxygen depletion, odour and health risks. Sewage treatment plants were introduced in a modest scale in the 1930s. Mechanical treatment was followed by biological treatment in the 1950s and chemical treatment by means of precipitation in the 1970s, thereby reducing discharges of the nutrient phosphorus. The infrastructure for this was to a large extent paid by the state through governmental grants, which started in 1967 and ended in 1979. During the final decade of the 20th century, nitrogen reduction was introduced for all major coastal plants.

The introduction of WCs led to the construction of sewers to convey the effluents, stormwater and drainage directly to the closest body of water. Up to the mid 1950s this combined sewerage system was used in most places. Since that time, a separated system with one foul sewer and one stormwater sewer has been preferred for new developments. The present infrastructure for water supply and wastewater treatment in Sweden was in principle fully built in 1980, and only minor investments have been made thereafter, generally as additions to the existing system. The main development and growth in Sweden after 1980 has been focused around the larger cities and university cities since 1980, while small towns and villages have stagnated in population or decreased. For instance, the population of greater Stockholm has increased with 25 % during this period, while the population of Sweden only has increased with 12 %.

Municipal cooperation prior Sydvatten

The most southern part of Sweden is also the area with highest population density and in general a far reaching urbanisation (i.e. with Swedish standards). The water supply of these municipalities must be met with a safe raw water source, which is difficult to find in the area. Since 1901, a large groundwater aquifer named Alnarpsströmmen was used for water supply of the cities of Malmö and Lund. The abstraction of water from Alnarpsströmnen continued to increase but the water tables decreased simultaneously during the period 1920–1940 and it was obvious for the management of Malmö vattenledningsverk (Malmö municipal water supply) that the aquifer could not meet the increasing water demands. Initially, the well field was artesian, and excess water head could be utilized for leading water without pumping to Malmö and Lund. Due to reduction in water tables, this system had to be abolished and exchanged for vacuum head production. In the early 1930s, some 70 wells were in operation with vacuum head in the region. But also this system came to an end for Malmö, when the water tables were so low that suction head not could be applied any longer. From 1936, the ground water table was so low in the wellfield supplying Malmö, that a central pumping station had to replace the vacuum water suction system. During the 1930:ies different new raw water sources were investigated, and the choice fell on the small lake Vombsjön east of Malmö and Lund. The catchment area of the lake is 450 km^2 and with a precipitation of 600–650 mm/a, the renewable water resouce is at least 5 m^3/s. From the Swedish Geological Surveys description of the area, it is clear that the area south of Lake Vombsjön mostly is composed of pebbles and gravel. This area is rich in natural groundwater and highly suited for artificial groundwater recharge. Extensive surveying of the area indicated a natural groundwater recharge of 150–200 l/s and a possible artificially recharged groundwater supply of at least 500 l/s, which should be sufficient for Malmö at least until 1960.

During 1937–1940, investigations with geological surveying, test drilling and field measurements were made in the lake area. More than 200 observations wells were drilled, which indicated a thick and extensive field of gravel and sand, with a thickness of up to 28.7 m. This could be the new water source for Malmö. On June 16, 1939, the Malmö board of water supply was granted funding for the construction of 10 wells for drinking water production and for further test drilling in the field by the city council. The board also got permission to buy land, in total 2600 hectares south of the lake, for water abstraction. Finally, the water board was instructed to apply for permission to draw water from Lake Vombsjön to infiltratate in the sand and gravel. Water permissions were granted by the Water Court, a legal body in charge of all inland water resouces of Sweden and a new waterworks built at Lake Vombsjön. Due to the Second World War, the construction was delayed significantly, but the planning continued. Only when peace finally came in 1945, the project could be implemented.

The city of Lund had contacted the city of Malmö with a polite request to take part of development of the Vombarea for water supply. An agreement for collaboration on the future waterworks Vombverket was discussed and finally approved by the city council of Malmö on 24 March and the city council of Lund on 31 March 1944. The agreement said that Lund was entitled to

15 % of the total water abstraction of Vombverket but had to pay 15 % of the construction cost and 15 % of the annual operating costs. The waterworks Vombverket was designed to deliver 12 million cubic meters of water in 1960 (380 l/s) and 23.1 million cubic meters in 1980 (720 l/s). In addition to Malmö and Lund's water requirements, some villages and communities along the water main would like to join. Therefore it was assumed that as many as 10 000 people outside of Lund and Malmö would get their water from the new waterworks in 1980 (that year, around 35 000 people outside Lund and Malmö got their drinking water from the waterworks Vombverket, namely people living in Veberöd, Dalby, Bara, Staffanstorp, Hjärup, Åkarp, Arlöv and Lomma).

But despite the availability of water for Malmö and Lund now temporarily were improved, a gnawing fear among the cities' engineers for a future water shortage was emerging. There seemed to be no real limitations on how much water the cities would need for the distant future. After 1945, the urbanisation process grew in magnitude. All outdated apartments should be modernized and equipped with water closets so that the health situation of the working people got better. The industries produced goods for the growing domestic and export markets and increased their water consumption from year to year. The population continued to grow strongly in all the cities of western Scania. The assessment of Vombverket was that the needs could be met until around 1980 with water from Vombverket. Groundwater resources in western Scania is moderate and not on par with population density. Surface water sources are limited and the only reliable lake water resource except for Lake Vombsjön is Lake Ringsjön. The cities of Helsingborg and Landskrona had the same worries as Malmö and Lund, but more acute, because there was no Vombverk in southwestern Sweden in the 1950:ies. Together with the municipality of Eslöv, Helsingborg and Landskrona therefore joined together on a development for drinking water production at Lake Ringsjön, which began in the year 1963, with eight slow sand filters treating lakewater from the Western part of Lake Ringsjön in Stehag, in the middle of Scania. All the cities were facing a water shortage in the long run.

Time for a change: regional water cooperation

An investigation into how western Skåne should be supplied with drinking water in the long run was initiated in 1950 by the County Council and presided by the Governor Allan Vougt in Malmöhus County. The study concluded that Lake Ringsjön should be exploited as raw water supply but that a long-term and large-scale solution, perhaps with water from Småland, was needed for Western Scania. The only question was where the water could be retrieved when Lake Vombsjön and Lake Ringsjön could no longer cover the raw water need. Events far beyond the borders of Scania set in motion a process that finally led to a fairly sustainable water supply for the entire western Scania.

In 1957 the city of Gothenburg began to examine if the lake Lygnern outside Kungsbacka, some 30 km south of Gothenburg, could be used as raw water source in Gothenburg water supply. This lake was also interesting for urban water supply from the municipalities south of Gothenburg, in an area called Halland. The regional County Administrative Board of Halland County requested in a letter to the Swedish government in February 22, 1960 that a regional water supply study might be executed for Halland. A week later, the county administrative boards in the two Scanian counties (Kristianstad and Malmöhus län) sent a joint letter to the Swedish government with the corresponding request for the regional water supply of Scania.

The government referred the matter to the Civil Engineering Board, which found several reasons to conduct an investigation: water consumption per capita did rise, the population of Halland and Skåne increased, industry, horticulture and other agriculture increased water consumption, in Denmark Copenhagen and other parts of east Zealand might need to exploit the Swedish water resources in future, and coordination and the fair distribution of fresh water between the different stakeholders was a state responsibility. The Civil Engineering Board (Väg- och vattenbyggnadsstyrelsen) could also proudly refer to the 1940's successful provincial investigations on water and sanitation in small towns and rural areas that had been initiated and implemented by the State. Water issues are generally transboundary, stretching over regional and municipal boundaries. Then the State must also be responsible for strategic studies on the counties' water supply.

The Civil Engineering Board suggested in their response to the government how the investigation could be conducted and on May 26, 1961, the Government decided to instruct the Civil Engineering Board to execute the investigation, which took the name The study on water supply of south-west Sweden. In the spring of 1965 it was printed, however, as the inquiry under the name of Skåne and Halland water supply (Skånes och Hallands vattenförsörjning, SOU 1965:8). The County Engineer in Örebro, Sune Wetterhall, was appointed to execute the investigation, which also involved N. Ahlgren, Tryggve Dackman, T. Andersson, U.S. Madison and Ingvar Bornmyr.

The study included 26 chapters and eight appendices

in a 513 pages thick volume. The main analysis supported the view that the present water supply in southern Sweden was not enough to secure water supplies in western Scania. Water must be obtained outside the borders of Scania. "From a technical-economic point of view, it is unrealistic to meet grand water needs by taking advantage of a number of groundwater resources with individually small capacity. The trend is towards a wider utilization of surface water for both towns and industry". Of the possible waterbodies investigated, the lake Bolmen was most promising. It was regarded as the best since it had the highest capacity and the best water quality, lowest bacterial load, lowest colour and lowest content of humic bound iron. The state investigation suggested a raw water tunnel to be built from Bolmen or the river Lagan that drains the lake Bolmen. The tunnel should end somewhere in the central part of Scania. To implement such a grand and costly project, the municipalities must pull together and find an agreement of cooperation, as no single municipality would be able to finance and operate this. From a regional perspective, a tunnel ending at a large waterworks would be the best solution to the water supply issue in Scania.

Compared with previously proposed solutions for the safe water supply of Western Scania, the ideas presented in this investigation were far reaching. Investments were assessed at about 300 million SEK in 1965 values and a raw water tunnel would influence many landowners and municipalities along the line. In order to realize the tunnel solution, the municipalities which were interested in the project were asked to coordinate it jointly and to involve as many stakeholders as possible in the tunnel project.

Sydvatten is established

The five main cities of Western Scania formed a municipal committee, named the Veberöd committee after where it was founded. In February 1961 local politicians from the five cities met in Veberöd to discuss what they wanted and could do to solve the water supply in western Scania. They agreed to set a technology committee to prepare for the Wetterhallska commission's proposals. The technology committee was formed by the heads of water utilities in the various cities. The county engineer in Malmöhus County, Tryggve Dackman, was invited to work with the technology committee, since he was the chief technical expert of the county and also participated in the Wetterhallska commission. When the Department of Transport (Kommunikationsdepartementet) submitted the inquiry to stakeholders in Skåne and Halland for comments, the five cities could make a common joint response – they were mentally prepared to pull together to the solve water supply problems in western Skåne. Once the tunnel was in operation, a river of fresh water would be led from Småland to the waterworks Ringsjöverket in Stehag, where good drinking water could be produced.

There is no danger that the lake Bolmen would dry out. The catchment area of the Bolmen system is over 6000 square kilometers, compared with the lake Vombsjön, which is only 450 square kilometres. In addition, it rains more in western Småland than in central Scania, which means that each square kilometer of land in Småland contributes to more water than the corresponding area in Scania does.

After some years, the members of the Veberöd Committee changed the name to Sydvatten Committee. Sydvatten Committee set up an organizational committee in February 1965 to prepare for how cities would interact with each other. They compared two organisational alternatives: a local association of municipalities (kommunalförbund) or working with a limited liability company (aktiebolag). The advantages of a corporation were considered to be more important than the disadvantages. One reason behind this was the company Sydkraft AB, which at this time was a wholly-owned municipal power company. The experience of collusion on electricity supply was generally positive among the cities (See Figure 1).

The five cities signed a consortium agreement in September 1966 with the purpose to form a company to "provide for the design and planning of a water supply plant in southwestern Sweden, including *e.g.* remote tap water distribution, substantially in accordance with the guidelines set out in SOU 1965:8, and in opinions of the technology committee of the cities, dated December 15, 1965."

A company called Desktop Clivorum was bought by the cities. The company name was changed to Aktiebolaget Sydvatten. An Extraordinary General Meeting of Sydvatten was held on 30 September 1966 in Malmö. The share capital increased from SEK 5000 to SEK 1 million and the shares were divided between the five cities in accordance with population. Sydvatten acted from the start independently from its owner municipalities and managed all the projects related with the longdistance water transport in the tunnel, the construction of suitable waterworks for the Bolmen water and all legal aspects connected with large-scale water exploitation.

The municipal influence on Sydvatten was exerted by the General Meeting and the Board, but also through meetings with city water managers in the technical committee, where a representative and a deputy from the technical department of each municipality met regularly. The first meeting was held on 31 October 1966 (See

SYDKRAFT

Arbetet den 1.10.1966

Fem skånestäder sluter upp bakom bolag för fjärrvatten

Nu är det slut på stridigheterna mellan skånestäderna om var man skall ta sitt dricksvatten fram på 70-talet. Ett av Sydkrafts små dotterbolag AB Sydvatten med ett aktiekapital på 5.000 kr har plötsligt fått detta ökat till en miljon kr. Det är Malmö, Hälsingborg, Lund, Landskrona och Eslöv, som ställt sig bakom det nya bolaget.

Meningen är att man skall utreda och planera bästa sättet att hämta vatten via en fjärrvattensledning från Lagans vattensystem. De alternativ man skall undersöka och planera för är desamma som lämnades i 1965 års statliga utredning om "Skånes och Hallands vattenförsörjning".

Att vattnet tryter och att man fram på 1970-talet kommer att få stora problem med vattenförsörjningen har de flesta skånestäderna redan kommit underfund med. Men det har rått ytterst delade meningar om var de dyrbara dropporna ska tas.

Genom inhoppet med en milj kronor i AB Sydvatten har de fem städerna beslutat sig för att vattnet ska komma från Lagans vattensystem. Men fortfarande vet man inte precis var i systemet man ska lägga ena ändan av fjärrvattenledningen Halland—Skåne. Det är svaret på den frågan det nya bolaget ska utreda.

Det blir Sydkraft som får uppdraget att utföra borrningar och andra undersökningar. Vidare måste man ta kontakt med olika naturvårdsintressenter och man torde inte kunna undgå visst samröre med vattendomstolen. Den tekniska sidan sköts av Sydkraft medan de fem skånestäderna står bakom med pengarna.

Tiden lider och det nya bolaget har begärt att Sydkrafts undersökningar ska forceras så kraftigt att man redan 1971 har alla planer färdiga, vattenhämtningspunkten i Lagans vattensystem m fl viktiga projekteringsarbeten klara för igångsättning. I princip ska det bara vara för städerna att fatta beslut så kan arbetena köras igång. För senast 1980 måste fjärrvattenledningen vara klar. Då har de fem skånestäderna ett så enormt vattenbehov att de nuvarande resurserna inte förslår långt.

Vid en bolagsstämma på fredagen valdes till styrelseledamöter från Malmö stad kommunalrådet Carl Ljungbeck (ordf) och direktör Bertil Muhr. Från Hälsingborgs stad kommer hr Carl Persson (vice ordf) och Lund bidrar med advokat Olof Wellmark. Från Landskrona stad kommer elektriker Nils Jeppson och från Eslövs stad kommunalrådet Harald Billing. Sydsvenska kraftaktiebolaget (Sydkraft) har direktör Sune Wetterlundh som representant.

Till verkställande direktör har sydkraftsdirektören Göran Ekberg utsetts. Han arbetar samman med projektledaren, överingenjör Bertil Sjöstrand, Malmö.

Och 1971 ska dessa herrar för sina respektive städer kunna presentera kompletta planer, ritningar och projekteringsberäkningar. För 1971 ska det bara vara för städernas fäder att säga "ja".

Figure 1. *Facsimile from the daily Arbetet on the formation of Sydvatten, 1st October 1966.*

Figure 2, showing a photo of the members of the board taken in 1970).

The formation of Sydvatten led to increased cooperation between the owner municipalities. For instance, in 1970 the five shareholder municipalities of Sydvatten signed an agreement on water supplies from Ringjösverket (City Council in Malmö Documents 1970, Appendix No. 74) to connect the two waterworks Vombverket and Ringsjöverket with a water main to cover Malmö-Lund region's water needs also from the Ringsjöverket, and to cover Eslöv, Landskrona and Helsingborg from the Vombverket. The decision also opened for a mod-

Figure 2. *The board of Sydvatten during a break in the meeting at Bolmen, 20 October 1970. Board directors were Carl Ljungbeck (chairman), Carl Persson (deputy chairman), Yngve Larsson, Ture Petersson, Harald Schoug, Sture Ohlsson, Thure Rostell, Gustaf Wiberg och Artur Palm. George Betts was deputy director representing Sydkraft. Senior officers of Sydvatten were Bertil Sjöstrand, Nils Mårtensson and Lars Reingardt.*

ernisation of the Ringsjöverket, which was equipped with chemical precipitation and rapid sand filtration in addition to the original eight slow sand filters. The water main between the Ringsjöverket and Vombverket was taken into operation in 1974. Some water was diverted from Ringsjöverket to Lund, who reduced their consumption of Vombvatten for the good of Malmö.

Not as necessary as expected

The construction of the tunnel took some time (See Figure 3). It started in the summer of 1975 but not until 1985 was the tunnel ready. A total of 80 km tunnel in the bedrock between Bolmen and a small place outside Perstorp had then been built. The staggering sum of 1.1 million m^3 of rock masses had been transported away from the tunnel. The tunnel is designed to carry 6 m^3/s. In 1976, seven new municipalities became members and owners of Sydvatten. It was Bara (Svedala), Burlöv, Höganäs, Kävlinge, Lomma, Staffanstorp and Svalöv. The founding municipalities decreased at the same time their shares – Malmö most from 60 % to 39 %. In 1978, the second agreement of cooperation (*konsortialavtal* in Swedish) between the shareholders was signed. The agreement stated that all decisions must be taken unanimously in the board and that new members are welcome if they pay for their share of the assets. Several municipalities had been invited to join the seven new members, but declined the invitation. As a reply to this, the twelve owners of Sydvatten wanted full cost coverage of the investments made, with interest, if new members would like to join hereafter. The second agreement of cooperation excluded in principle all new members, since the cost for joining as new member increased with time.

A third large step towards joint water production was when Sydvatten took over ownership and operation of the waterworks Vombverket and Ringsjöverket which took place the 1st January 1983. The staff of Vombverket had previously been employed by the city of Malmö who also owned and operated the waterworks, while the staff of Ringsjöverket had been employed by the city of Helsingborg. But all responsibilities and duties were transferred to Sydvatten in 1983. The waterworks were gradually modernised and developed. In 1993–1997, the capacity of Ringsjöverket waterworks was doubled from 1200 l/s to 2400 l/s. In 1996–1998, the waterworks Vombverket was supplemented by a softening plant through fluidized bed technology. Softening was regarded necessary in order to reduce copper corrosion in the houses, where the most common pipe material is copper. Softening has been in operation for several years with good results. The copper content in sewage sludge from two wastewater treatment plants in Malmö has declined from 1300 mg/kg dry weight to less than 500 mg/kg dry weight. Low calcium content in tap water also decreases the use of shampoo, soap, detergent, dishwashing liquid, tea and coffee in the household with possible savings as a result.

Majoritet i Helsingborg för snar Bolmenstart!

Kommunstyrelsen i Helsingborg säger ja till en start av Bolmenprojektet nu. Men beslutet är inte enhälligt. Socialdemokrater och moderata är för en omedelbar start av tunnelbygget, som beräknas ta sex år. Centern och folkpartiets enda företrädare i kommunstyrelsen, Inga Sjöholm, reserverade sig för ett treårigt uppskov i avvaktan på nya utredningar.

Helsingborgs kommunfullmäktige avgör frågan om kommunens medverkan vid sitt sammanträde den 22 april. Om den går på samma linje som kommunstyrelsen — och allt tyder på det — är det troligt att Aktiebolaget Sydvatten genast inleder upphandlingen för tunnelbygget.

Under överläggningarna har centern yrkat nej till en omedelbar byggstart. Två centerpartister, Jan-Erik Hofflander och Erling Persson, har motionsvägen begärt ett treårigt uppskov i avvaktan på nya undersökningar och att olika åtgärder att begränsa förbrukningen av vatten skall prövas.

Socialdemokrater och moderata har ansett att Skåne måste falla tillbaka på sjön Bolmen förr eller senare för att klara sin vattenförsörjning och att ett uppskov endast skulle fördyra projektet.

KLAR MAJORITET

Tillsammans har socialdemokrater och moderata 44 av de 65 mandaten i kommunfullmäktige, varför utgången av en votering är given.

Den lilla folkpartigruppen i kommunfullmäktige torde för övrigt vara splittrad. Representanten i kommunstyrelsen är mot Bolmen, men somliga ledamöter av fullmäktigegruppen uppges vara klart för projektet.

Helsingborgs kommuns kanslichef Folke Andersson har utarbetat en promemoria där han begärt minst ett års, högst två års uppskov med ett beslut i avvaktan på kompletterande utredningar. Man skulle då även undersöka förutsättningarna för avsaltning av havsvatten med hjälp av Barsebäcksverket. Majoriteten inom kommunstyrelsen väljer dock att starta Bolmen nu. Beslutet var väntat med tanke på att socialdemokraterna i de berörda kommunerna enats om att stödja projektet.

J. S.

Figure 3. *Facsimile from the daily Helsingborgs Dagblad 1975-04-15 on the decision in Helsingborg to support the starting of the construction of the Bolmen tunnel.*

In total, Sydvatten invested in modernised and improved water treatment plants and distribution systems during 1983–2000 for more than 1 000 Million SEK. Together with the investment in the Bolmen tunnel itself, the total gross assests in the company are about 2 000 Million SEK.

The Vellinge municipality, south of Malmö, had always abstracted groundwater from the south-west Scanian limestone aquifer as raw water supply. In the middle of the 1990:ies, the old ion-exchange method for softening the groundwater needed to be replaced and a new previously untested softening method utilizing a floatation technique was implemented. The technique had technical problems and would not operate properly even after significant refurbishment of the floatation plant. The political and technical leaders of the municipality started to look for another more reliable solution. Sydvatten was the best and most obvious alternative.

A parallel process had started in Sydvatten. The board of directors had started analysing the capital need for Sydvatten, and initiated an investigation in what the proper capitalisation would be for the company. All municipalities had lent capital to Sydvatten and also guaranteed the loans which Sydvatten had in external banks. What would the relevant capitalisation be? How large should the economical responsibilities of the owner/municipality be? Should or could Sydvatten try to invite external customers or neighbouring municipalities to buy drinking water from the Sydvatten network? Or should even new municipalities be encouraged to join Sydvatten – and if so, how should this be organized? When Sydvatten was established, virtually all municipalities of Scania was invited to form the regional water company. In total 12 municipalities choose to take part in the investments and capital supply. The agreement of cooperation between the owner-municipalities was designed to acknowledge the large capital investment made by the municipalities. The demand for full cost coverage for new share owners meant for a municipality of the size of Vellinge a capital need of +200 M SEK (+20 M €). The magnitude of the investment effectively locked out new owners.

From 1970 and forward, the specific water consumption has stagnated in Sweden and the prognosis from the 1960:ies of a constant water consumption growth rate had been falsified. In the larger drinking water production plants, typically less than 60 % of the production capacity was utilized. Could the investments made by Sydvatten in raw water supply and drinking water production possibly be used more effectively? Would a higher net water production to more municipalities be a more rational use of invested capital in total? Should Sydvatten even try to invite new owners with a discount?

Modern organisation

There were many questions to answer and the board of directors contracted an external management consultant to execute the investigation in 2002. In the suggestions from the consultant, the invested capital and capacity of Sydvatten could be utilized more extensively by trying to actively find new customors and new owner-municipalities for the company. The board listened to the suggestions and decided in March 2003 to increase the marketing activities and actively try to find new owner-municipalities, with a different way of charging them for the shares. The board also decided to develop the company towards a position as regional centre of competence for water supply and water services. Any existing or new owner-municipality or industry which wants to outsource the operation of local waterworks to an external party, should be confident that Sydvatten could do that. The regional water treatment capacity in combination with large raw-water resources designed for a much larger per capita consumption in the region allows Sydvatten to find new markets. Sharing the operational costs on more hands should decrease the specific cost of produced drinking water. Advantages of large-scale productions should be used more actively. This decision meant that Vellinge municipality could be the 13th owner of Sydvatten in 2004. In December 2003, an extra general meeting was held where Vellinge municipality was accepted. The agreement of cooperation was re-negotiated and a new agreement of cooperation was signed in 2005.

The clause on new conditions for new members in Sydvatten reads:

> §9 Conditions for new municipalities
>
> The general meeting decides with regard to circumbstances for each specific case on acceptance of new owner-municipality.
>
> The municipality that joins the company after 31st December 2003 shall
>
> 1) support existing agreement of cooperation between owner-municipalities
> 2) acquire shares according to [a principle based on population] for a price corresponding to its part of the net assets of the company based on the book value according to the adopted balance sheet previous year
> 3) put an interest free loan to the company according to [a principle based on population].

With this change, Sydvatten has accepted three new municipalities as members since 2004 (Skurup, Svedala and Bjuv). Several other municipalities have expressed their interest in joining Sydvatten. The change in view

on cooperation and municipal responibilities for water production has been large compared with the responses in the 1970ies (see Figure 4).

Strong drivers for this organisational change are that many municipalities are facing a change in generation among the water engineers, and that few young professionals are attracted by a highly fractioned workplace that the small municipality can offer. If a municipality manages to attract a young professional, it is not unusual that she or he heads for a more attractive employer within some years. Also the status of the local waterworks are low, since modernisation has been scarce the last 30 years (since the 1970:ies). To start inter-municipal cooperation as Sydvatten is one example of, has been an increasingly attractive way out for municipalities in stress. The municipality owned company Sydvatten is never regarded as a threat to the independence of the municipality, more like a support. Since investments in the water service sector should last and be used for several decades, the general view in Sweden at present is that municipal control and active management is the most cost-effective path for the water sector. More municipally owned water corporations and inter-municipal corporations will be formed in the near future and Sydvatten is well positioned to take part of this structural change.

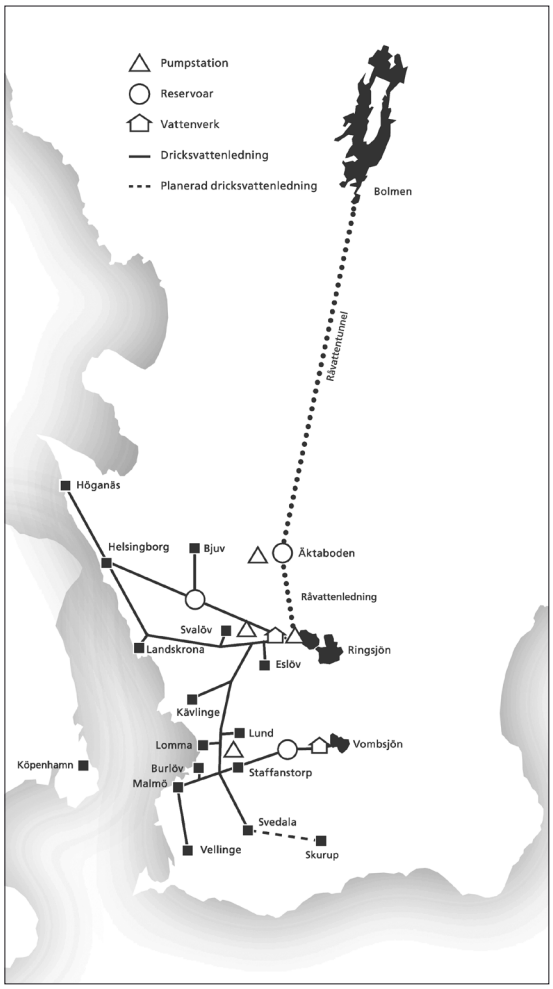

Figure 4. *The water supply scheme of Sydvatten in 2010.*

Literature sources

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