

# “Did 7 years with private water-wastewater operation contractor give better results or just lower costs?”

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## Key word description of the paper

A political decision in Norrtälje pushed a new growing market of competition processes concerning municipal water-wastewater services in Sweden.

## Summary

The municipality of Norrtälje with 56 000 inhabitants is situated 70 km northeast of Stockholm in Sweden.

The politicians decided in 1999 to start a competition process concerning water-wastewater services of the municipal technical office. A tendering process started and a private company won the competition. The staff was offered work with better conditions in the private company.

The start-up time from 2002 of the contract was mainly focused on a safe transfer of the quality levels of the services.

Next part of the contract period contained discussions and actions taken for maintenance, improvement and development of assets and processes. Communication and customer care has given results that have been measured in the Satisfied-Customer-Index. The last years the index has risen which means that no contract penalty have been demanded from the operator.

The current status in the 10-yearcontract is a cooperating spirit between the parties and stability in the services delivered. The stability in the economy of the works and the fact that the contract sum decreases every year is an advantage. Much effort is now put in on extension, development and financing of the planned assets since Norrtälje is a growing municipality.

In economic terms the contract has resulted in 10-15%-savings, but the long-term advantages are mainly achieved in areas as quality in the services, customer focus, predictability, long term and systematic works. The strength of the contract partnership is an important part in the development and extension of the water-wastewater services in Norrtälje.

Some areas of risk or disadvantages with the contract are less competence for the municipality in water-wastewater services, the sensitive factor of a small client

organisation and a number of contract negotiations. However, water-wastewater issues have never before been in such positive focus and awareness among people in Norrtälje, and the success is spreading to other municipalities.

## Water-wastewater in Sweden

Sweden is a country with a size of 450 000 km<sup>2</sup> in northern Europe with about 9 million inhabitants consisting of 290 municipalities. Municipal water-wastewater services are in Sweden almost a monopoly area traditionally run by the municipalities themselves or inter-municipal companies. Generally there is a good supply and good raw water quality for drinking water and the customer tariff level is not frequently or seriously questioned.

The municipalities have since a long time purchased design and construction of the assets and the assets are owned by the municipalities according to the Swedish law. Supervision of and licensing the municipalities is carried out by the regional environment agency and the municipal environment authorities and the national food administration sets water quality standards. The municipalities politically sets price and decides how to operate and develop the services.

The assets and the works get more and more complex and higher competence of the staff is required. Since the water and waste water area is a small sector it becomes harder and harder to get educated and experienced employees when the present staff leaves. The last years has shown that competition activities in the operation area can give advantages in quality, economic and improvement aspects. Some municipalities have tried to improve their services by competitions and one of the first and by many judged as the most successful and complete is the municipality of Norrtälje.

## The municipality of Norrtälje

The municipality of Norrtälje is situated 70 km northeast of Stockholm, the capital of Sweden, and has about 56 000 inhabitants during all the year. In summertime the population increases with about 100 000 people due to the more than 25 000 summerhouses, many of them in the archipelago with more than 10 000 islands. The area of the municipality is about 2 000 km<sup>2</sup> land and 3 000 km<sup>2</sup> water area of the Baltic Sea.

About 40 000 houses in the municipality are not connected to the water-wastewater-system of the municipality. Since the population of the municipality is growing with more people upgrading and living in their summerhouses there is a very large need of extension of the municipal water-wastewater systems.

The water-wastewater systems consists of 13 waterworks, 19 wastewater works, 80 pumping stations, 309 km water network, 239 km sewerage and 150 km storm water network. The assets are complex with a large variation of cleaning methods and constructions.

The raw water for the waterworks comes from surface water 90 % and groundwater 10%. The income from the 35 000 water consumers is about 9 million Euros and the total price for water-wastewater services is about 3 Euro/m<sup>3</sup>.

### **Political decision**

The politicians decided directly after the election where the conservative party got in lead in 1999 to start a competition process for all the technical services in the municipality. The decision included the water-wastewater services of the municipal technical office. At that time this was nearly unique in Sweden and caused quite a lot of publicity. A lot of debate took place in the municipality of Norrtälje, the right-wing parties supported the decision and the left-wing parties and the unions were against.

A document called the competition plan was politically decided and described quite detailed how the competition should take place. Parameters as length of contract period, rules for the staff, how to form the tender documents, participation of in-house organisation and how to compare costs was included in the document.

### **Competition process**

The work started and an organisation as a client group was formed and got the mission to plan and carry out the process at the same time as the rest of the organisation carried out the normal work and had resources to compete as an in-house competitor.

The competition started with a European prequalification where organisations could apply for membership in a register of organisations from which the starting-list of competitors was to be picked-out. Demands of economic strength, references, key-persons, quality and environmental assurance and legally fulfilling tax and fee demands were set up to participate. The prequalification resulted in 16 organisations qualifying such as big private international companies, construction companies, local companies and municipal companies and federations. The areas to qualify was separated in production of water and treating wastewater, distribution of water and leading wastewater to treatment plants, customer service, maintaining works, maintaining pipes and constructing new assets. Of the total of 16 organisations, 8 qualified for all areas.

The prequalification was partly to put up a list of competitors, partly to inform and map the interest in the market and finally to put up a formal list who should have the possibility to participate in the competition. The prequalification also included an opportunity for the competitors to give their own proposals for contract time and extent of the contract.

After evaluation of the prequalification the client organisation put together the tendering documents which also was politically approved. In the tender documents a contract time of 10 years with the possibility to extend the time with 2 years and a scope of work that included a complete technical and administration operation and customer support including billing was set up. The municipally kept the ownership of the assets and the authority function according to the Swedish law including deciding the extension of new customers and setting the tariff. Also the major economic part of maintenance and

investments was to be decided by the client after proposals from the contractor/operator.

An invitation was sent to the 8 organisations that qualified for all areas. At the same time the tender documents were handed over and a time limit of two months were set up for the competitors to deliver their proposals. The proposals were supposed to contain descriptions of the way of delivering the services, addressing every demand in the tender documents. There were some important targets set up by the client organisation, which were clearly included in the documents. The targets were to create a partnership based on

- Transfer of the operation to a new partner should be positive for the customers
- The opportunity of incitements should be addressed
- The staff should be offered to join the organisation of the operator
- Education of the staff were to be addressed in the proposal
- Quality and environmental improvements were to be addressed in the proposal
- Lower operational costs for the municipality
- Create good cooperation conditions
- The partnership should be based on confidence and trust.

A number of 5 proposals were delivered and two rounds of negotiations started. The purpose of the negotiations was to

assure that the proposals were correctly understood and to improve the proposal up to the limits set up in the tender documents. The result of the two negotiation rounds ended up with large improvements of the proposals.

After the second round of negotiations the remaining competitors could give in a complete offer that now also included an economic part.

At the same day the offers should be given in by the competitors, but before opening the offers, the municipality politically decided what the in-house offer should be. A number of 3 complete offers were given in plus the in-house offer from the municipality itself.

The control of the offers and the evaluation were carried out by the client organisation in 5 steps and followed a scheme described in the tender documents:

1. Evaluation of added values in 5 categories described in the documents
2. Evaluation of prizes in the different prize elements
3. Comparing offers after added values points given
4. Verifying offers by visiting references given by the competitors
5. Proposing the winner

The three offers were first judged for all added value parameters except the pricing. Added value was compared with the present level and the result was as follows:

Added value parameter	Maximum value	Offer 1	Offer 2	Offer 3
A. Administrative system	5	2,5	3,0	2,5
B. Proposed incitements	3	1,5	2,1	2,5
C. Developing · proposals	2	1,2	1,5	1,5
D. Quality and Environmental assurance	2	1,3	1,5	1,5
E. Organisation	2	1,5	1,0	1,0
Total	14	8,0	9,1	9,0

Evaluation of prizes in the different prize elements started with opening the envelopes with the economic offers, which had been kept closed until the first evaluation was ready. The result was as follows in Swedish Crowns (1 Euro ~10 Swedish Crowns):

Prize element	Offer 1	Offer 2	Offer 3	In house
Fixed prize	25 742 217	20 800 000	26 924 000	28 775 000
Options	573 315	990 000	2 337 000	2 755 000
Administration	620 500	396 000	590 000	470 000
Total	26 936 032	22 186 000	29 851 000	32 000 000

Next step was to compare offers after added values points were given, but since the highest level of added value points was smaller than the economic distance to the best bid, the added value evaluation did not effect the result. Offer number 2 was the best proposal so far.

Now the client group visited reference works and offices to verify the offers. Customer service, staff-take-over, union-cooperation, water-wastewater works, mapping, TV-filming of pipes, assets in a place with a large-scale of summer-visitors and cooperation with local and regional authorities was demonstrated by the private company with offer number 2. Almost exactly two years after the political decision to start the competition the technical board of Norrtälje decided to give the contract to the private company that represented offer number two and a letter of intent was signed in June 2001.

The technical office and the company now formed the final documentation included in the contract and the official signing took place on an island in the archipelago in December 2001. The contract works started 1<sup>st</sup> of January 2002.

The time schedule was

- Invitation for prequalification  
13.10 2000
- Last day for application for prequalification  
23.11 2000
- Tender documents sent out  
27.2 2001
- Last day to give in proposals  
23.4 2001
- Answer about lacks in the proposals  
26.4 2001
- Negotiation nr 1  
2-8.5 2001
- Negotiation nr 2  
21-23.5 2001
- Last day for economic offer  
5.6 2001
- Evaluation  
6-8.6 2001

- Political decision in the Technical board  
20.6 2001
- Contract signing  
6.12 2001
- Contract start  
1.1 2002

### **Municipal and outsourced areas**

The ownership and right of disposition is still the responsibility of the municipality as well as the main part of the economic resources for maintenance and investments. Asset extensions, supervision and price setting are also decided by the municipality.

Customer call centre, administration and billing, managing plants, network, delivery of services, planning of improvements, investments and maintenance are the responsibility of the private partner.

### **Contract start**

The start-up time from 2002 of the contract was mainly focused on a safe transfer of the quality levels of the services.

An important issue was the staff. The staff was offered work with better economic conditions in the private company and everybody but 2 employees accepted the offer. The remaining two had already new employers.

The municipal organisation started to reform the client organisation to manage the contract. Some of the leading functions were headhunted to other jobs and a recruitment process was carried out. A manager and a contract administrator were employed and together with a project manager, an administrator for new customer connections and a part time map technician they formed the client organisation. Before the contract the municipal organisation included about 30 persons. The operator used the staff from the municipality and two people from their company to start operating the contract.

### **First period of the contract**

In the beginning of the contract period there was a breakdown of a concrete construction in the main water work. It resulted in a hard test of the organisation on both sides, the client and the operator. During the efforts to reconstruct the work a water test analysis showed positive bacteria samples, and there was a period when people had to boil the drinking tap water from the main water work.

The incident caused discussions and some publicity in terms of questioning the contract and each party's responsibility, but on the whole the problems were solved in a good way between the parties.

However, the incident put an extra focus on the water and waste water issue in Norrtälje and the two next customer surveys showed a lower confidence than before.

The roles of the client and the operator took form and some contract issues were of course raised by the operator such as what is included in the contract and not. Negotiations about the addressed issues started to take time and effort from both sides.

### **Next period of the contract**

Next part of the contract period the day to day operation run in a good way and actions were taken for maintenance, improvement and development of assets and processes.

The day to day partnership also run well, the weekly operation meetings and the monthly contractual meetings showed that the partners worked well together in a good spirit.

Since there was an economic space as a result of the competition the maintenance activities increased, at first focused on the waterworks and then on the waste water works. Improvements were made and searching for leakages resulted in less loss of water.

However, the contractual meetings contained quite a lot of contractual discussions and in aim not to disturb the good spirit in the partnership there was a special meeting arena formed by the top management to solve the different opinions between the partners.

After a lot of meetings involving both lawyers and politicians the questions were solved and an appendix to the contract was signed.

### **Present situation**

The current status in the 10-year contract is a cooperating spirit between the parties and stability in the services delivered. Both organisations have identified their roles and the partnership is developing. The stability in the economy of the works and the fact that the contract sum decreases every year is an advantage and creates possibilities for improvements. Customer satisfaction has risen and the political understanding from the main parties, both majority and opposition, is that the partnership is running well.

Much effort is now put in on extension, development and financing the planned assets since Norrtälje is a growing municipality. A very significant consequence of the competition is that more time and effort can be put in from the municipality concerning development and growth of the municipality. One of the results is a project together with local authorities to form an extensive action programme for the large number of needs including a priority list for the investments to be made until the year 2030.

The programme takes care of more 150 areas inside the municipality and includes considerations to technical, social, economical, environmental and sustainable needs. It includes municipal efforts in more than 100 areas until year 2030 at a proportionately high estimated investment level. The work to form the program has in a very high level engaged the employees of different authorities to work together and understand each other and has created a working method of analyzing and giving priority to the different aspects for the development. Step by step for every single area the decision-tree has grown to the result of the discussed area and the thick "development-encyclopaedia" took form.

The programme is discussed in a number of forums with citizens, local and regional authorities, businesses and politicians. As a result of the decided programme the municipality of Norrtälje now experience the biggest pressure on extending the assets and bringing services to the inhabitants and summer-guests ever. The work and result has been referred to in a report from the regional government as a good example, and it shows how it is possible

to achieve good results using motivated employees over the normal borders between authorities. It has developed a systematic way of working and has created large interest and expectations from customers that increases the opportunity for the municipality to grow in a sustainable way.

A network improvement and extension programme is set up and the result so far is lowering the drinking water leakages from over 30% down to 23%. Over 150 km new network is planned and has started.

### Satisfied-Customer-Index (SCI)

As one of the targets were that the transfer of the operation to a new partner should be positive for the customers a Satisfied-Customer-Index had been set up before the competition process started and is supposed to be measured yearly. There is

also a clause included in the contract stating that if the customer index gets under different levels a fine 0-5% of yearly fee is to be paid. SCI resulted as mentioned above at lower level due to water work damage and boiling incident in 2002. Taste and smell problems (chlorine) were linked to the damage. There was an agreement made that the private partner was not to blame for the concrete collapse and no fine was demanded.

The last years the index has risen which means that no contract penalty at all have been demanded from the operator. The operation, communication and customer care has given positive results. The customers' opinions that have been measured in the Satisfied-Customer-Index are (index between 0 and 1 where 1 is the highest level):

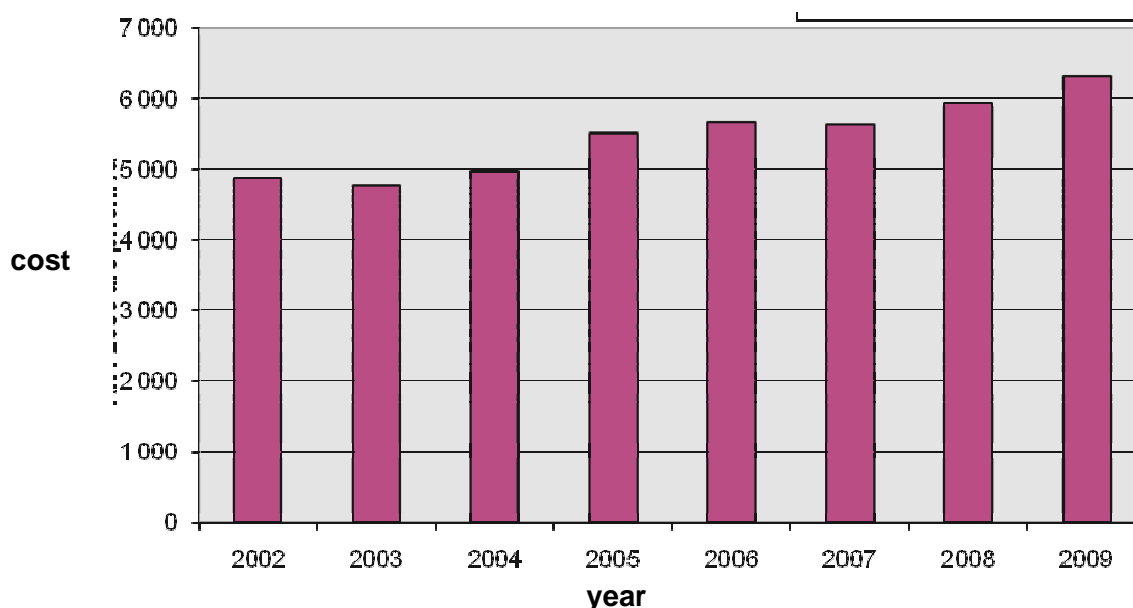
Year	2008	2007	2006	2005	2004	2003	2002	2001
Index result	0,74	0,75	0,70	0,68	0,64	0,64	0,70	0,76

### Economy

In economic terms the contract resulted in 10-15%-savings on the operation cost compared with the situation before the competition. The customer tariff was lowered at first and the rest of the economic space used for improvements of the assets.

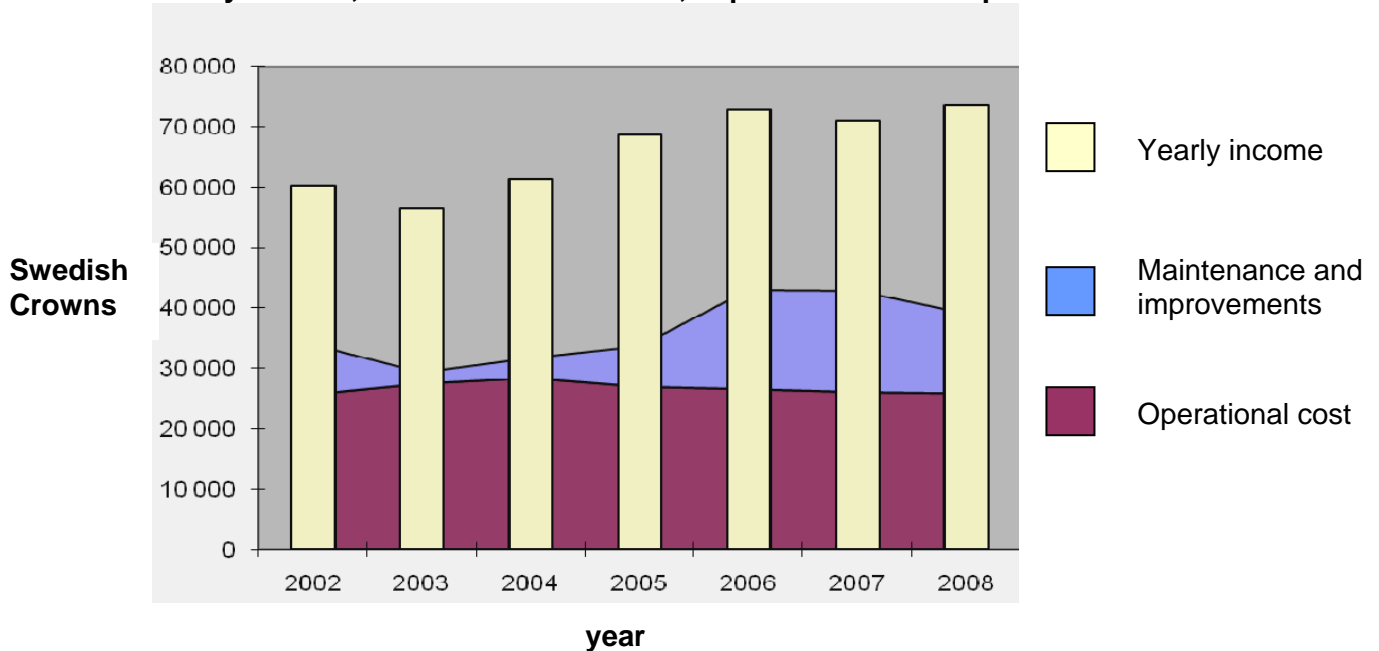
Since the needs of extensions of the assets to satisfy the demands of municipal growth the tariff has been raised as shown in the diagram. The cost shown is the total yearly cost paid for water and waste water services in Swedish Crowns (1 Euro ~10 Swedish Crowns) for a typical one family house.

Yearly cost for a typical one family house



The cost for operating the assets is stipulated to decrease in the contract. A formula of calculating the decrease was set up in the tender documents and the competitors could bid how much they could reduce the cost yearly during the contract period. The first years the full reduction factor reduces the fee, the following years half the factor reduces the fee and the last years of the contract 25% of the factor reduces the fee. The method stimulates improvements and gives the client a part of the more efficient operation. As shown in the diagram the purple volume (operation costs = contractual fee) has decreased since 2004 and the economic space (the blue area) has been used for maintenance and improvements. The yellow bars show total yearly income in Swedish Crowns. The difference between income and operational cost + maintenance and improvements are used for financial and interest costs for the assets.

**Yearly income, costs for maintenance, improvements and operation**



### Advantages and disadvantages

The economic result of the competition was at first the big success, but the long-term advantages are mainly achieved in areas as quality in the services, customer focus, marketing, predictability, long term planning and systematic works. The strength of the contract partnership is an important part in the development and extension of the water-wastewater services in Norrtälje. The big work carried out in planning the extension of the assets and the growth of the municipality is one of the results of the work. Predictable operational cost for long time is one of the strength in planning and the fact that the total water and waste-water competence is higher in Norrtälje now than before the competition is welcome.

Some areas of risk or disadvantages with the contract are less competence for the municipality in water-wastewater works,

the sensitive factor of a small municipal client organisation working together with a big, professional company, the need of client competence that is hard to find and some administrative routines between the partners. It has also been hard to find successful economic and incitement tools for improvements and the large-scale contract negotiations are a memory that exists.

### At last

Water-wastewater issues have never before been in such positive focus and awareness among people in Norrtälje, and the success is spreading to other municipalities. A lot of study tours and invitations for lectures are received and a few municipalities have tried their own way of competition in parts of water-wastewater services, but yet nobody as far-reaching as Norrtälje.

A challenge is to learn from others, develop and improve methods and construction of contracts and partnerships, and that goes for both the municipality and the company. Correctly used a competition process can lead to more efficient services and a better economic outcome.

The answer to the name of this paper is that in Norrtälje the partnership has resulted in both better results of operation and lower operational costs.

However, the main target and task must never be forgotten; Customer satisfaction!

June 2009  
Tommi Eriksson

### **Biography**

Tommi Eriksson (M Sc Eng) is since more than 10 years the Technical Director of the municipality of Norrtälje in Sweden. Before that he worked in a construction company for 10



years, mostly in big projects like the Stockholm Globe Arena, the railway shuttle to Stockholm Arlanda Airport and three years at a hotel project in the Soviet Union. He has been responsible for carrying out and managing the almost total outsourcing of the technical services in the municipality, including water-wastewater services, which due to its extent is unique in Sweden. The competition process and positive result of the operation have been discussed and initially questioned, but since now more than 7 years of operation it has been of large interest in Sweden and the Scandinavian countries with a lot of study-tours and speeches in conferences.

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