

Procurement of a wastewater recycling system for the Austrian Mint

Federal Procurement Agency, Austria

Background

[Austria's Federal Procurement Agency](#) (BBG) was founded in 2001 by the Federal Procurement Agency Act and is responsible for providing central procurement services to Austrian national agencies. BBG's primary tasks are to bundle requirements in order to obtain better prices and conditions from suppliers, whilst also standardising public purchasing in order to reduce processing costs and legal risks, and provide support to national agencies on public procurement. BBG achieves this by negotiating framework contracts and making these frameworks available to the public sector.

The [Austrian Sustainable Public Procurement \(SPP\) Action Plan](#) came into force in 2010, committing BBG to implement sustainability criteria in public tenders covering 16 different product groups.

Procurement objectives

Print and Mint Services GmbH, the company responsible for carrying out all procurements on behalf of the [Austrian Mint](#), approached BBG and requested their assistance with the preparation of this tender. The Austrian Mint is a public limited company and owned by the National Bank of Austria. It is responsible for coin production in Austria.

The Austrian Mint required a new solution to treat the residual water (wastewater) left over from the production of coins, as at that time the treated water still contained high amounts of chemicals which exceeded legal limits. A thorough analysis of the market was conducted before tendering with market research indicating that three potential technologies were available on the market: chemical treatment of wastewater, filtration and vaporization. The Austrian Mint came to the conclusion that a vaporization system would be the most sustainable solution and would also allow it to meet its [ISO 14001](#) requirements, which it is currently applying for.

Criteria used

Subject matter of the contract: Planning, delivery, installation and bringing into service a wastewater treatment plant (vacuum evaporation) including maintenance and service.

A negotiated procurement procedure was launched, and was organised into three main stages:

Stage one: Potential suppliers were invited to provide information on their ability to provide an innovative solution. This included prior references of similar innovative solutions. This step produced a response from four suppliers, which were able to provide the information required.

Stage two: The three most suitable suppliers were invited to submit a first offer, which included a detailed concept and calculation of the foreseen life-cycle costs (LCC). The latter included all energy related costs; maintenance costs including personnel; cost for maintenance resources; waste disposal costs; and purchase costs. On this basis, the companies were provided with wastewater to test out their concept in practice. Two of the three companies submitted a full report with detailed information on wastewater consumption and savings as well as the concentration of the waste filtered. The contract performance clauses were then drawn up based on the reported results of the testing process. It was essential that the chosen supplier guarantee these values for a period of five years. This request resulted in the withdrawal of the third potential supplier from the procurement process.



Stage three: Based on the results of the second stage of the process, the two finalists were each invited to submit their definitive offers.

Performance based specifications: As far as possible, no detailed specifications for the technical implementation were requested.

The most important functional specification was the indication of the water pollution and the corresponding amount of wastewater per year. Essentially, a system that reduces the use of water is what was required. Based on this, various technical solutions were expected and were submitted as part of the proposals from the various bidders.

Award criteria: The main criteria (totalling 90% of the award criteria) were the life-cycle costs based on the net present value for a calculation time of five years. Additional points were awarded for the warranty time and reaction time for maintenance.

Contract performance clauses: The contract performance clauses included precise targets which the treated water had to meet (with penalties for non-compliance).

Results

Five suppliers were invited to take part in stage one and two of these made it through to the final stage. The solution offered by the winning supplier was more expensive in terms of purchase price than the bid from the other supplier; however, upon application of the LCC approach, the company which was ultimately awarded the contract was able to provide a solution that was economically more viable over the contract's lifetime.

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The intellectual property rights of the system purchased have remained with the supplier, thus any other organisation can also purchase the solution on the market. One significant advantage of the machine is that it can be installed in any environment and it can be used in a variety of industries, as it can filter a range of particles, such as food, metals, ink, and it can also be used for waste recycling systems.

Environmental impacts

Until recently, the procedure, particularly for producing coins, was to treat contaminated water chemically before disposal - reusing water was not possible. The vacuum vaporiser, however, allows the water to evaporate at 40°C and leave waste particles behind, resulting in the reusability of all the evaporated water. Using this technology leads to a 97% reduction in the use of fresh water. The waste remaining is highly concentrated and thus easier to collect and cheaper to dispose of.

One of the machines provided by the winning bidder can recycle up to two million litres of water a year. This means that up to 1,940,000 litres of water can be saved by each machine on a yearly basis.

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Lessons learned

An interdisciplinary team involving several organisations was involved during the pre-procurement and procurement phases of this procedure. Due to the extensive cooperation between the organisations involved - BBG, the Austrian Print and Mint Services GmbH - it was possible to execute the negotiated procedure successfully and purchase an innovative and sustainable product which perfectly suited the Mint's needs.

Furthermore, the success of this tendering procedure is largely attributable to the openness of all participants (the Austrian Mint and the companies involved) in undertaking a new approach to public procurement.

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For related information, please see European GPP criteria for [Wastewater Infrastructure](#) and the [Technical Background Report](#).