# Performance-based waste management contracting

## In a nutshell

| Summary overview |
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| It is best practice for local authorities that contract out the delivery of certain MSW management services to private suppliers to include performance-based contract clauses. Performance-based contracting can ensure that both environmental and financial objectives are met.<br><br>Three main characteristics are inherent to a performance-based contract:<br><br>• definition of a series of objectives and indicators to measure contractor performance;<br>• collection of data on the performance indicators to assess the implementation of the service;<br>• good or bad performance impacting the contractor (higher revenue or penalties).<br><br>It is important for local authorities to base the performance clauses on a full set of indicators (for example taking inspiration from the indicators presented in the best practice Common environmental performance indicators and appropriate monitoring. Special care needs to be taken in defining a baseline and bearing in mind the influence of the variation in external conditions (economic, social, regulations, etc.) on the benchmark mechanism. |

| Waste management area | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cross-cutting | MSW - strategy | MSW - prevention | MSW - collection | MSW - EPR | MSW - treatment | CDW | HCW |

| Applicability |
|---|
| The existence of an effective waste management performance monitoring system is a prerequisite to performance-based waste monitoring system (building on internal management practices to expand to contract management).<br><br>When switching to a performance-based contract for the first time, it is also important to establish a dialogue with the prospective contractors and all stakeholders involved, in order to learn what is technically achievable and economically feasible. |

| Specific environmental performance indicators |
|---|
| Share of the contract value depending on the achievement of the environmental objectives or of the defined environmental performance levels (%).<br><br>Customer satisfaction (% of residents satisfied with household waste collection and specifically with the collection of the separately collected fractions). |

## Description

Municipality-contracted services are usually in efficient when, once a private service provider is in place, the cost efficiency and cost savings of the system come at the expense of its performance, i.e. costs are reduced due to a lower quality of the service. To avoid that, the municipality can put in place a binding contract that articulates robust performance standards. If the contractual mechanisms needed to encourage the right results are inadequate or are even missing, the contract will result in a failure (Chamberland, 2011). Performance-based contracting (or *resource management*) is a common technique used in other areas of public and private contracting. A performance-based management contract is an agreement for the management of waste that, through the action of a contractually agreed payment mechanism related to defined performance indicators and targets, incentivises the movement of waste management further up the waste hierarchy, and enhances the prospects for improved resource efficiency and the flourishing of a circular economy (EUNOMIA, 2014). The waste authority establishes a contract with an entity where the payment obligation for each year, including the year of implementation, is either (a) set as a percentage of the municipal solid waste cost savings attributable under the contract, or (b) guaranteed by the entity to be less than those solid waste cost savings (WSL, 2007).

In contrast to energy contracting, waste management performance-based contracts are not so common. The main example is the case of Bristol, which implemented a green public procurement system based on a performance-based contract. Although in all waste management contracts there are clauses and schedules on performance and its monitoring, no incentive or penalty system has been detected to constitute a best practice. Also, the Regions for Recycling (R4R) programme did not include any example of performance-based best practice in their analysis of economic instruments at local scale (R4R, 2014). The International Institute for Sustainable Development (IISD, 2014) argues that performance-based contracts do not necessarily ensure any degree of environmentally or socially beneficial performance if these are not correctly targeted, while the public sector shifts to an evaluation or measuring only role. Also, Eunomia (2014) performed a theoretical study of the plausible impact of performance-based contracts and some conclusions were derived:

- the municipality needs to develop a full set of indicators, for example taking inspiration from the ones presented in the best practice Common environmental performance indicators, and develop monitoring practices;
- a baseline has to be defined, and the influence of the variation in external conditions (economic, social, regulations, etc.) has to be properly taken into account in the benchmark mechanism.

The study does not include any example of its application, but the analysis of plausible scenarios in a theoretical context. In light of these conclusions, it is concluded that the application of best environmental management practice (e.g. waste monitoring, PAYT) enables the use of performance-based contracts. For systems with an outstanding performance and a solid strategy, performance-based contracts would be a tool for optimisation. Unfortunately, no example has been derived in this regard.

The key is to create a *win-win* situation for both the customer and the contractor, since both participate due to the achieved cost savings. Three main characteristics are inherent to a performance-based contract:

- definition of a series of objectives and indicators to measure contractor performance;
- collection of data on the performance indicators to assess the implementation of the service by the contractor;
- good or bad performance leading to consequences for the contractor (higher revenue or penalties).

A public organisation, in a performance-based setting, identifies the problem to be solved and the supplier must convince the public organisation with a solution. Then, the public organisation is required to develop or use clear standards to measure the performance of the service and penalise non-compliance (Chamberland, 2011). Conventional contracts, even including performance-based clauses, do not include win-win situations or the measures to achieve the performance are not left to the decision of the contractor. The contractual economic arrangements for the waste management service should be based on three pillars (U.S. EPA, 2004): (i) cost-effective opportunities to reduce waste, (ii) financial incentives to contractors to pursue the recycling and reduction of waste, and (iii) financial incentives are generated from cost savings. In most of the examined literature, performance-based contracting in the waste management sector focuses on waste collection, but the applicability can cover the whole spectrum of techniques (prevention, reuse, treatment, etc.).

Performance-based contracting can be applied to several contract arrangements in public-private utilities. In 2011, the OECD reported the following contractual formats for municipal services:

- Service contract: the private organisation carries out technical and/or administrative tasks (e.g. repairs, meters).

- Management contract: the private organisation takes over operation and management, although the user or client remains legally responsible for the public entity.
- Lease contract: the private company under a management contract also assumes the legal responsibility for operating the service in exchange for payments for the use of the fixed assets.
- Build-Operate-Transfer contract: the private organisation designs, builds and finances a new project that it also has to operate and maintain for the concession period.
- Concession contract: similar to the lease, but the contractor is in charge of financing the expansion or the rehabilitation of the service.
- Joint venture contract: the municipality and the private cooperator co-own the service (in these cases, the municipality usually has a golden share).
- Full divestiture: the asset is entirely sold to the private sector, with the private organisation bearing the risks. Public sector and independent regulatory agencies are in charge of supervision of the performance.

Table 1 shows how these contractual arrangements distribute responsibilities in the different stages of a performance-based contract.

**Table 1. Allocation of responsibilities in a performance-based contract**

| | Responsibility for | | | | | |
|---|---|---|---|---|---|---|
| **Type of contract with the private organisation** | **Setting performance indicators and benchmarks** | **Asset ownership** | **Capital investment** | **Operation** | **User fee collection** | **Oversight of performance and fees** |
| Fully public | Public | Public | Public | Public | Public | Public |
| Service | Public | Public | Public | Private | Public | Public |
| Management | Public | Public | Public | Private | Private | Public |
| Lease | Public | Public | Public / Private | Private | Private | Public |
| Concession | Public | Public | Private | Private | Private | Public |
| Fully private | Public | Private | Private | Private | Private | Public |
| *Source*: Adapted from OECD (2011). | | | | | | |

## Environmental benefits

Performance-based contracting eases the implementation of best environmental management practices, and, therefore, may result in a better environmental performance by the following:

- Establishing a funding mechanism for a better performance, e.g. through incentives to the contractor or penalties due to low performance, without extra burdens to the public authority.
- Establishing an appropriate link between the waste hierarchy and the waste management contract. Part of the contractor revenues would be directly linked to the environmental performance. This is as opposed to conventional contracts, paid per volume collected or treated, so the reduction of waste volume generated is in contrast with the economic performance of the service, while recycling is sometimes not even considered in terms of the contractor performance.

## Side effects

Performance-based contracts are designed to remove cross-media effects from conventional contracting. The environmentally beneficial performance of performance-based contracts is not always ensured and their benefit compared to conventional contracts can be disputed: for instance, if the contracting authority has not developed the metrics for the system or established a baseline (IISD, 2014). In that case, technical specifications in conventional contracts may produce better performance results.

## Applicability

The existence of a well-standardised waste management performance monitoring system is a prerequisite before starting the procedure of a performance-based waste monitoring system. For instance, Bristol could implement a performance-based approach based on the existing $CO_2$e monitoring system and indicators system, derived from the EMAS-registered environmental management system (Bristol City Council, 2014). Another prerequisite, especially when changing to a performance-based contract, is to establish a dialogue with the prospective contractors and all stakeholders involved, in order to learn what is technically achievable and economically feasible. The city of Bristol may have failed at involving all required stakeholders, as, finally, the penalty clauses could not be implemented in the contract due to budgetary restrictions, i.e. the city council would never be able to absorb the higher price of the service that would then be charged to the citizens' waste fees.

Finally, another key aspect for applying this best practice is the need to ensure, among the different parties involved in the contract, the traceability and transparency of data to which the performance-based contract is linked as well as the need for independent (i.e. third-party or joint) monitoring of results and the performance achieved.

## Economics

*Compensation options*

According to U.S. EPA (2004), there are basically two compensation options for the contractor. However, the specifics of contracts may change depending on the negotiation phase; there will then be as many compensation options as contracts signed under performance-based clauses.

- Option 1. Pass-on of service costs with shared savings and performance bonus. Costs are established from the basic financial proposal in the bid, then cost savings are shared between the waste authority and the contractor. Examples of savings opportunities are diversion of materials towards recycling, more efficient handling and hauling through right-sizing, behavioural changes, etc. (all to be implemented by the contractor). The split of savings depends on the contract, the main example is 50/50 %. Other approaches could be for example 30/70 % for the contractor if the overall savings are over 5 %. Below 5 %, all savings go to the public authority. Then the performance bonus/penalties can be given through the increase/reduction of the savings share.
- Option 2. Fixed cost with guaranteed cost reductions. A fixed amount for the basic service is given to the waste management company, which is calculated on the previous year's total costs, and with a guaranteed cost reduction. For instance, if the cost was EUR 100 000 per month during the last year, the contractor may offer a 5 % cost reduction based on its own confidence of achieving that result. So, the public authority would pay EUR 95 000. All further savings would benefit the contractor. This is the option preferred in many US municipalities, as it is the one with less uncertainty for year-to-year accounting.

*Examples of implementation*

The case in Bristol, UK, showed that the time taken to prepare the tender and the dialogue and negotiation was twice that of a conventional contract, although its evaluation is not more complex. This factor adds an extra administrative burden and a resource-intensive tender process. In the case of Bristol, it also added a restricted budget, so no incentive or penalty clauses were finally introduced in the contract.

In Europe, not many references to the implementation of waste management performance-based contracts could be found. However, these examples have been successfully implemented in other areas of public procurement, such as energy efficiency of buildings, information technology, road construction, transport fleet and railways (IISD, 2014).

## Driving forces for implementation

In general terms, this technique is meant to align the waste management hierarchy with economic drivers. For instance, in conventional contracts an increase in the total amount of waste can be assumed as positive from the contractor's perspective. However, performance-based contracts would link waste prevention actions or programmes executed by the contractor to the actual revenues. Therefore, the main driver is the enhancement of the environmental performance of the waste system and the improvement of its management which will eventually reduce costs.

## Reference organisations

The International Institute for Sustainable Development, www.iisd.org.

Bristol City Council, bristol.gov.uk.

European Commission, Green Public Procurement, http://ec.europa.eu/environment/gpp/index_en.htm.

U.S. Environmental Protection Agency, WasteWise program, https://www.epa.gov/smm/wastewise.

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