



Content in a MSC procurement and performance requirements

EFFECT4buildings Toolbox:
Multi Service Contracting; Annex 3



The project “Effective Financing Tools for implementing Energy Efficiency in Buildings” (EFFECT4buildings) develops in collaboration with public building managers a comprehensive decision-making support toolbox with a set of financial instruments: **Financial calculation tools; Bundling; Funding; Convincing decision makers; Energy Performance Contract; Multi Service Contract; Green Lease Contract; Prosumerism**. The tools and instruments chosen by the project has the biggest potential to help building managers to overcome financial barriers, based on nearly 40 interviews with the target group. The project improves these tools through different real cases.

To make sure building managers invest in the best available solutions, more knowledge on different possibilities is needed as well as confirmation from colleagues that the solutions performs well. EFFECT4buildings mapped **technological solutions** for energy efficiency in buildings with the aim to share knowledge and experiences of energy efficiency solutions among building managers in the Baltic Sea Region.

This document is a part of the Multi Service Contracting (MSC) toolbox and introduces some of the important elements regarding the public procurement and contract in an MSC project. First a short introduction to the contractual basis is given. Next an overview of how to dispose the content in the public procurement and last an introduction to performance requirements.



Partners



EFFECT4buildings project is implemented with the support from the EU funding Programme Interreg Baltic Sea Region (European Regional Development Fund) and Norwegian national funding. The aim of the project is to improve the capacity of public building managers in the Baltic Sea Region by providing them a comprehensive decision-making support toolbox with a set of financial instruments to unlock the investments and lower the risks of implementing energy efficiency measures in buildings owned by public stakeholders. More information: <http://www.effect4buildings.se/>



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Introduction to the contractual basis

MSC has the following contractual basis, which follows the phases shown in figure 1¹.

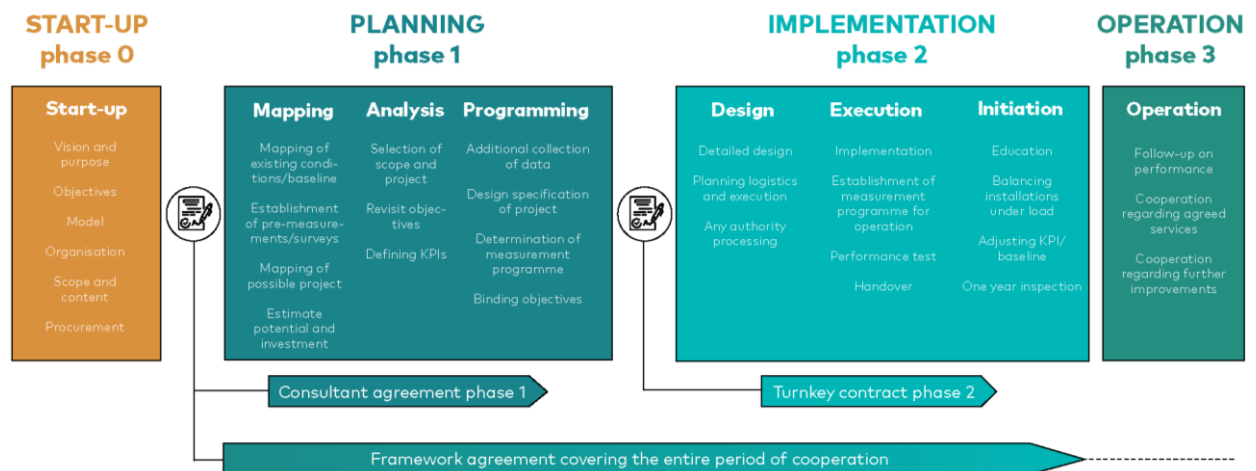


Figure 1 Generic model for MSC. Consisting of four primary phases and subphases in phase 1 and 2, with three different types of contracts to support the phases.

A framework agreement covering the full contract period and setting out the terms and conditions that will apply to any order placed during the contract. It establishes various elements, among others; performance requirements, model of cooperation, pricing, incentives and performance management. The framework agreement is signed with the awarded supplier after the public procurement process (i.e. before entering phase 1)

Phase 1 – Consultant agreement. An overall consultant agreement is signed for phase 1, along with the framework agreement. When starting a new project (group of building stock or a bigger renovation in specific building), an allonge to the phase 1 contract is signed, regarding which **Activities**, **Time frame** and **Resources** are expected for each sub-phase in phase 1 (ATR agreement) for the specific project. The supplier is paid by the hour in phase 1.

Phase 2 – Turnkey contract². A binding contract including design and construction with a fixed price based on the concrete project. The phase 2 contract is first signed when the parties are aligned on the content, and the project has a level of knowledge where the supplier can give a fixed price. The building owner is not obligated to sign the phase 2 contract, if agreed conditions in phase 1 and the objectives are not met (the content can be compared to phase 2 in an EPC project or the implementation phase in strategic partnerships).

¹ To find more information about the generic MSC model see the MSC guide and tool 1, “Guideline for MSC phases and toolbox”, to be found on www.effect4buildings.se.

² Also sometimes called a design and build contract.



Phase 3 – Operation and service contract. An optional contract, relevant if it includes operation and maintenance services or performance guarantees.

How to handle a portfolio of projects

When executing a portfolio of projects in larger building stocks, it can be an advantage to split the portfolio of projects into sub-projects.

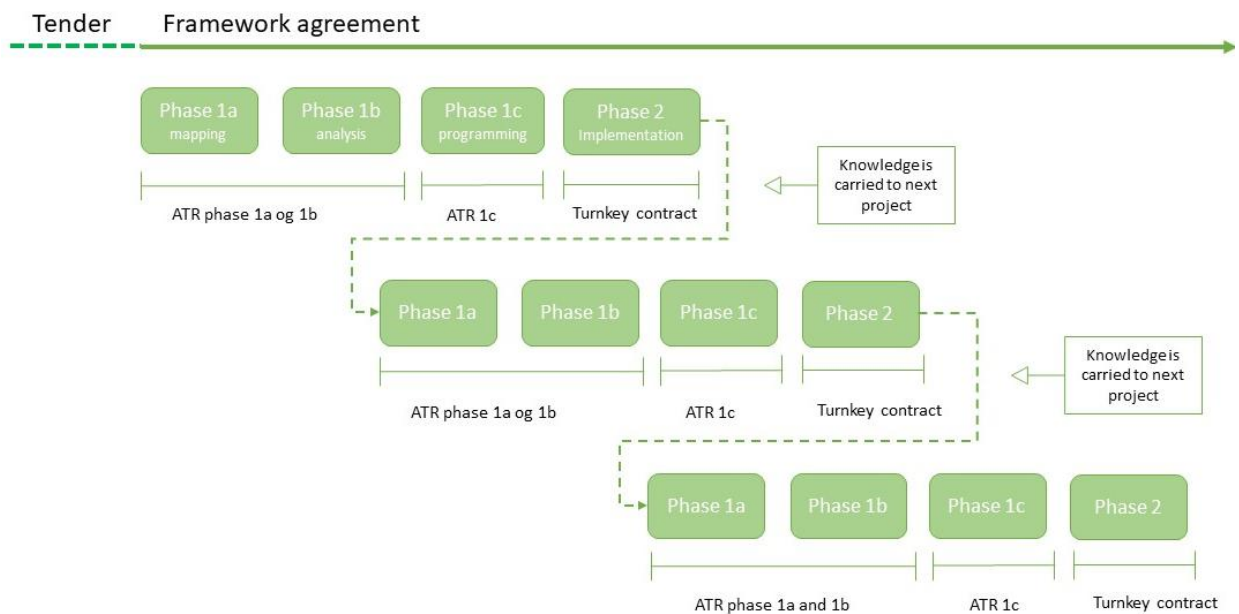


Figure 2 illustration of a portfolio of projects

Figure 2 illustrates how a portfolio of projects under the framework agreement can be executed in smaller sub-projects – and each sub-project can have its own objectives, time frame, process and requirements. For each sub-project, the **Activity, Time frame and Resources** are described in an allonge to the consultant agreement. When entering phase 2, a turnkey contract is signed for the sub-project. This provides flexibility, both in resources and time frame, and knowledge can be exchanged between the projects.



Procurement documents

Public procurement documents are documents prepared or referred to by the contracting authority for the purpose of describing or defining elements of a procedure for the awarding of a public contract. It includes as a minimum public procurement obligations, contract terms and requirements.

In the following, inspiration to content is shown:

Public procurement obligations:

The contract notice

General conditions of the public procurement

The proposed contract terms

Framework agreement

Appendix to the framework agreement:

- Appendix Phase 1 planning: Consultant agreement contract
- Appendix Phase 1 allonge: **Activity, Time and Resources** contract
- Appendix Phase 2 implementation: Turnkey contract
- Appendix Phase 3 service and operation: Operation and service contract (optional)

Requirements and performance requirements

Project description in terms of scope, objectives and baseline information

Cooperation requirements – all phases

Performance requirements – all phases

- Appendix: Builder's Standards
- Appendix: Main schedule
- Appendix: Any relevant additional documents like drawings, templates, etc.

The winning supplier is awarded the framework agreement and the consultant agreement. The turnkey contract is not awarded until after phase 1, Planning, when the project is specified in a design specification.

Usually the first project is described in the procurement documents which means the first allonge to the consultant agreement can be signed based on the MSC supplier's tender (with Activities, Timeframe and Resources).



Allonges to the framework agreement when signing Phase 2 turnkey contract

Only after phase 1 is the specific project known and the process planned, which is why the framework agreement is supplemented with contract documents when signing the phase 2 turnkey contract. Content is adapted to the project. The contract documents are added as allonges based on the concrete and agreed project. The documents include information about scope (economic, interfaces, building stock), project material incl. assumptions, preconditions and calculations, updated baseline and KPIs, updated builder's standards, project plan incl. quality plan, detailed schedule and test paradigms.

The following can be used as an inspiration to disposition of the allonges.

Appendix A: Economy (contract amount, savings, payment plan)

Appendix B: Design specification per property (describes measures, assumptions, impact, economy at a level of detail where scope and content can be made binding)

Appendix C: Calculation assumptions and preconditions (describing assumptions and mapped preconditions used to calculate e.g. effect on indoor climate, energy, back log of maintenance)

Appendix D: Baseline and KPIs per building (size of agreed performance, e.g. indoor climate, energy, operation services)

Appendix E: Method of performance verification (describes agreed methodology for follow-up on baseline and KPIs)

Appendix F: Test paradigm (describes the minimum requirement to test – before and during handover, before and during inspections and test during follow-up)

Appendix G: Quality plan (including control forms, plan for quality assurance, environmental and health management & safety)

Appendix H: Detailed schedule (itemised schedule for design and execution time)



Performance requirements

In MSC the technical specifications in the public procurement document is based on performance requirements. Performance requirements are in general used in cooperation projects like Strategic Partnerships, Partnering, Public Private Partnerships and Energy Performance Contracting.

In the next section we give a short introduction and list some of the pros and cons.

Using performance requirements in a public procurement process is a professional discipline, and we would recommend professional help, if your organisation does not have experience within this field of expertise.

What are performance requirements?

In a procurement based on performance requirements (also named functional requirements and output specifications), the building owner describes the requirements for the result and the effect of the contract. Hence, the choice of methods, the planning and organisation of the project is up to the supplier. Hereby the responsibility and risk for the design, solutions and execution rests with the supplier.

Instead of describing requirements in detailed technical descriptions and work methods that lead to the provided service, the performance requirement describes the performances and functions. The performance requirements specify the minimum level of performance which must be met for all relevant building materials, components, design factors and construction methods. They are expressed in both quantitative and qualitative terms.

The basic principle of functional procurement based on performance requirements is that the client does not describe the details on how to solve the task in advance, but instead defines a set of goals (performance requirements) for the quality of the delivery.

Types of performance requirements

The performance requirements can split into three categories of deliveries and services – requirements regarding the **delivery/service** where the minimum quality of the delivery or service is described, requirements regarding **the results** which can be compared to the objectives in the project or requirements regarding **the effect** which can be compared to the purpose³.

³ In the MSC model, the objectives constitute the basis for decisions as well as the design and quality of technical solutions. In the MSC guide and tool 2, "Guideline to MSC decision process", how to work with objectives is elaborated. Both can be found on www.effect4buildings.se.



An example of a requirement regarding the delivery/service for a ventilation system may be some of the following. The ventilation system must be able to keep the temperature of a building within a specified range and secure a maximum level of concentration and an average maximum concentration over a period of time for various types of air contaminant (CO₂, NO₂, O₃, SO₂, TVOC, CH₂O, Particles as PN10 and PM_{2,5}) and use a maximum of specific fan power in kW/m³.s.

If the same requirement had a focus on the result, the requirement could state *x % fewer sick days and y % higher productivity*, and if the requirement had a focus on effect, it could state *achieving a satisfying and healthy working environment*.

Need for baseline and follow up

This example shows the need for establishing a baseline with clear preconditions mapped before the implementation of the projects to be able to follow up on the results and effect afterwards.

It is also important to consider, whether the supplier can take full responsibility for achieving the required results and effect. In the example, the supplier cannot on his own reduce sick days and increase productivity in a renovation project – only take responsibility for improving the physical indoor climate.

In this case it is better to have a performance requirement regarding the delivery or services wanted, which is both easier for a supplier to take responsibility for and to evaluate, if achieved. The result and effect can still be good guidelines and work as objectives and purposes in the project, but may be difficult to use contractually.

The follow up is important to make sure the supplier meets the requirements. The building owner must in the public procurement specify as a minimum the requirements to documentation, testing and other evaluation in the different project phases⁴. An example could be the building owner requiring a test paradigm in the design phase showing how and when the constructor will test that the technical installations have the required performance.

Note that in general the national building codes are based on performance on both energy performance requirements concerning the building as a whole and on specific elements and performance requirements to the function, e.g. ventilation rate. The building codes define a minimum level, and the building owner must consider, whether these minimum levels are good enough. It can be recommended to differentiate and customise the requirements for different types of rooms and areas in the building.

⁴ In tool 6, “Introduction to measurement and verification”, and tool 7, “Introduction to performance verification during implementation”, in the MSC toolbox, inspiration on methods used to ensure the performance can be found. The MSC toolbox is available on www.effect4buildings.se.



Performance requirements pros and cons

In the following table a list of pros and cons of using performance requirements in an MSC context is listed. The list is focused on the building owner.

Pros	Cons
The objectives and requirements are in focus, since the focus is on performance on quality and innovation instead of fulfillment of detailed technical specifications.	The building owner pays the supplier to take on extended responsibility and risk in the project.
Application of responsibility and risk lies with the supplier. The supplier takes the responsibility and risk for the way the delivery or service is executed and planned. The supplier's ownership increases when given freedom to organise the work and use own methods and solutions.	The building owner does not have the same influence on solutions and the methods chosen. Instead the building owner has a role of ordering a "service" and seeing to it that the services are delivered as requested.
Easier to involve the users and less work preparing the requirement specification in the public procurement. The users, e.g. a teacher or janitor, can better express their expectations in functions and performance than in technical terms.	Both the building owner and the supplier must be active in the cooperation and have the will to make the partnership work. This approach can be new for both parties. If the cooperation is failing, it can be difficult to get out of the contract.
The requirements can be made more generic. The building owner can formulate own standards for quality and performance requirements which can be used in all renovations and new building projects. These standards then just need to be adjusted to the specific project.	
The building owner gets access to the supplier's expertise and experiences. Can introduce new methods and solutions.	
The delivery and service can be optimised within the budget. If there is a fixed budget, fixed minimum return on investment, maximum payback period or other fixed requirements for profitability, the supplier can optimise their solutions and use of resources to match these requirements to get most value for money.	
Supplier's ownership increases when given freedom to organise the work and use own methods and solutions.	

