Sustainability in Facility Management

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Summary

Sustainability in Facility Management (FM) is more than the reduction of energy consumption during the phase of use. All the supporting services offered by FM shall improve the sustainability of the FM customer. Therefore the share that FM adds to the sustainability of the customer has to be measured in its own system. This system needs good interfaces to existing systems for sustainability accounting, like GRI, LEED, BREEAM, DGNB, etc. Following these demands the GEFMA (German Facility Management Association) working group “Sustainability in Facility Management” intends to publish a guideline on measuring and managing sustainability in the processes of FM.

Keywords: sustainability, Facility Management (FM), phase of use, GEFMA

1. Introduction

For public buildings as well as for private high quality projects in the construction sector it has become a necessity to integrate sustainability into the bidding processes of the construction phase. But how is sustainability to be quantified in the phase of use? Which measures are practicable to be taken in daily routines in order to manage sustainability in operation and maintenance of a building? Or even in secondary processes that are not building related?
The German Facility Management Association (GEFMA) has started a working group in 2012 in order to answer the questions above with defining a guideline on sustainability in Facility Management (FM). The author of this paper is head of the working group. The paper will present the status quo of the draft for standardising sustainability in FM in the sense of a discussion paper.

2. Intended Guideline

It aims at helping FM professionals to manage sustainability in the secondary processes that are bundled in FM. To manage means to measure, to monitor, to declare and to compete on clear KPIs (Key Performance Indicators) for sustainable FM services.
These KPIs shall be used for procurement, in the daily routine of FM performance as well as for potential sustainability reports in FM. Therefore KPIs have to be suitable for communication and also to be practicable concerning documentation and calculation. In addition to that GEFMA expects that a certification shall become possible, as soon as there are enough benchmarks available measuring sustainability in the different sectors of FM.

3. Relation to existing systems of sustainability assessment

The GEFMA guideline will relate to systems measuring the entrepreneurial sustainability, i.e. GRI CRESS (Global Reporting Initiative, Construction and Real Estate Supplement) and ISO 26000 on CSR (Corporate Social Responsibility), and as well to systems accounting the sustainability of construction works. Especially in the versions for buildings in use there are FM-related indicators,

i.e. LEED for existing buildings (Leadership in Energy and Environmental Design) BREEAM in use (BRE Environmental Assessment Method), DGNB system (German Sustainable Building Council), etc. Also ISO 15392 and ISO 21929ff: “Sustainability in building construction” will be of importance.
The research project “RoSS – Return on Sustainability System” [1] undertook a first attempt to define a specific accounting system for the sustainability of FM industry. It developed a set of 20 KPIs in a process of iterative consultations with FM practitioners [2].

4. First results of discussion process

General principles of sustainability in FM have to be the basis on which KPIs can be stated. A differentiation seems to be necessary in order to address the different context in operative versus strategic management and in technical versus other services. There will be a set of compulsory KPIs complemented by optional KPIs. It is mandatory that FM has possibilities to influence a KPI during the phase of use of a facility. KPIs need to include the supply chain of FM. Most important is that KPIs shall not use square meter or similar units for benchmarking but functional units e.g. fulltime workplace.
The proposed system calculates the share of FM in the achievement of sustainability for the primary process, the staff and the facilities of the FM customer. The contribution of FM is calculated as the difference between the value for the KPI at the beginning and at the end of the period under consideration. The final KPIs to measure the contribution of FM e.g. to the reduction of consumptions, shall follow a national standard (or assessment system) in order to achieve maximal compatibility. The sustainability of the FM provider himself is addressed in “sustainability in the supply chain”. There the quality of the provider can be assessed according to GRI or RoSS.

Thus sustainability in FM can be accounted separately from the facility and the primary processes of the FM customer, but with a precisely defined relation to both.

[1] KUMMERT K., MAY M., PELZETER A.: “Nachhaltiges Facility Management”, Berlin, 2013
[2] http://ross.htw-berlin.de/RoSSApp

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Sustainability in Facility Management (FM) is more than the reduction of energy consumption during the phase of use. All the supporting services offered by FM shall improve the sustainability of the FM customer. Therefore the share that FM adds to the sustainability of the customer has to be measured in its own system. This system needs good interfaces to existing systems for sustainability accounting, like GRI, LEED, BREEAM, DGNB, etc.

Following these demands the GEFMA (German Facility Management Association) working group “Sustainability in Facility Management” intends to publish a guideline on measuring and managing sustainability in the processes of FM. The guideline will contain general principles of sustainability in FM for a strategic and an operative level. KPIs will address technical and other services separately. Only KPIs that can be influenced by FM will be listed. They have to include the supply chain of FM and to be related to a functional unit, e.g. fulltime workplace.

Keywords: sustainability, Facility Management (FM), phase of use, GEFMA German Facility Management Association

1. Introduction

For public buildings as well as for private high quality projects in the construction sector it has become a necessity to integrate sustainability into the bidding processes of the construction phase. But how is sustainability to be quantified in the phase of use? Which measures are practicable to be taken in daily routines in order to manage sustainability in operation and maintenance of a building? Or even in secondary processes that are not building related?

The German Facility Management Association (GEFMA) has started a working group in 2012 in order to answer the questions above with defining a guideline on sustainability in Facility Management (FM). The author of this paper is head of the working group. The paper will present the status quo of the draft for standardising sustainability in FM in the sense of a discussion paper.

FM processes are understood in the sense of ISO 15221-1 [1] as all secondary processes needed to support the primary process of a FM customer. The FM supplier may be the internal or external partner of the customer. Also the FM services may be building related or related directly to the primary processes, see fig. 1.

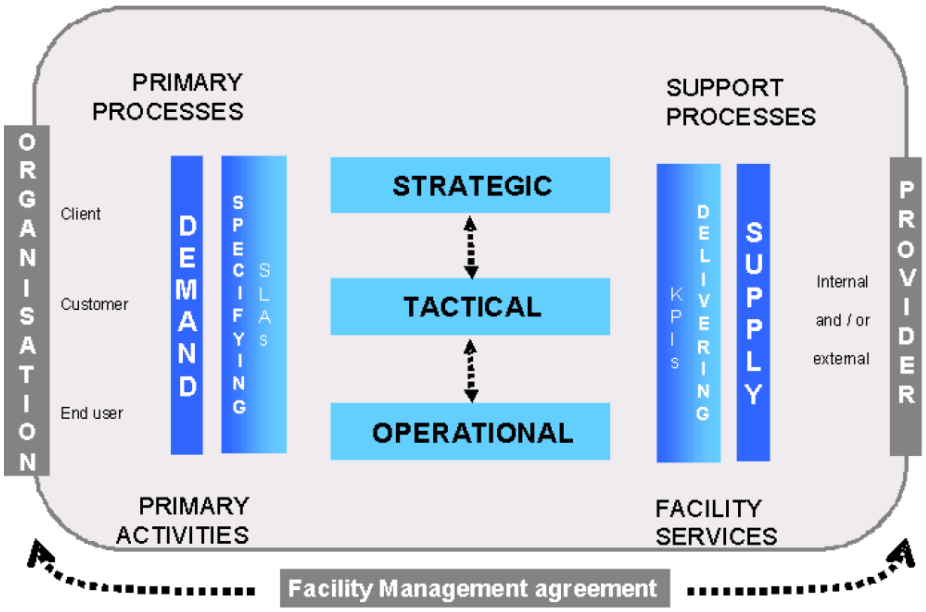

Figure 1: definition of FM given in ISO 15221-1

2. Intended Guideline

The planned GEFMA guideline on sustainability shall not redefine sustainability for facilities. It aims at helping FM professionals to manage sustainability in the secondary processes that are bundled in FM. To manage means to measure, to monitor, to declare, to optimise and to compete on clear KPIs (Key Performance Indicators) for sustainable FM services.

These KPIs shall be used for procurement, in the daily routine of FM performance as well as for potential sustainability reports in FM [2]. Therefore KPIs have to be suitable for communication and also to be practicable concerning documentation and calculation. Communication on sustainability gains increasing importance not only for image reasons but also for the motivation of all stakeholders involved [3] –especially FM staff –and for meeting the expectations of a public that wants more and more transparency in any respect of business activities [4].

The postulation of practicable KPIs aims at a good integration into decision-making processes [5]. In addition to that GEFMA expects that a certification shall become possible, as soon as there are enough benchmarks available for sustainability in the different sectors of FM.

3. Approach in working group

The GEFMA working group unites representatives of 26 enterprises –FM customers as well as FM providers. In summer 2012 they started a process of collecting and assessing information and expertise on sustainability in FM. In sub-groups existing systems of sustainability assessment were analysed in respect to its relevance for activities of FM. Relevance was meant in the sense that FM can influence the qualitative or quantitative indicators asked for in the systems. The result of this work is a catalogue of around 100 FM related indicators in existing systems.

But the main question was: how can the characteristics of FM be addressed adequately? FM provider work in a facility owned by another stakeholder. That makes the provider responsible for some building related processes. But he often has not the right –and the resources- to invest into the facility in a way the owner would do. Also the duration of FM contracts is mostly far away from covering the life cycle of the facility. But existing systems to assess the sustainability of buildings do integrate the whole lifespan of facilities.

Another characteristic of FM is the provision of services. These services are provided by people whose working conditions are often disadvantageous: working early or late, small wages and little

reputation. The creation of sustainable working conditions [6] for FM staff in the secondary processes shall become visible in the FM specific system as well. The results of this discourse are summarised in the following chapters.

In order to test if the chosen KPIs fulfil the postulation of being practicable case studies shall be carried out in summer 2013. Members of the working group and other interested enterprises will check the availability of necessary data, the applicability to different industrial sectors, the expenditure of time for calculating the KPIs, etc.

4. Relation to existing systems of sustainability assessment

The GEFMA guideline will relate to systems measuring the entrepreneurial sustainability, e.g. GRI CRESS [7] (Global Reporting Initiative, Construction and Real Estate Supplement) and ISO 26000 on CSR (Corporate Social Responsibility). An indicator for the importance of GRI for the FM industry is the fact that most FM enterprises who published its sustainability report recently referred to GRI, e.g. ISS [8], Piepenbrock [9].

Also the systems accounting the sustainability of buildings have implications on FM. Especially in the versions for buildings in use there are FM-related indicators, i.e. LEED for existing buildings [10] (Leadership in Energy and Environmental Design) BREEAM in use [11] (BRE Environmental Assessment Method), DGNB system [12] (German Sustainable Building Council), etc. Searching for general instructions ISO 15392: “Sustainability in building construction - General principles” (2008) and ISO 21929ff: “Sustainability in building construction” will be of importance. In addition to that some aspects of sustainability are standardised in detail, i.e. in ISO 14000ff for environmental management systems or in ISO 9001 for quality management systems, see fig. 2.

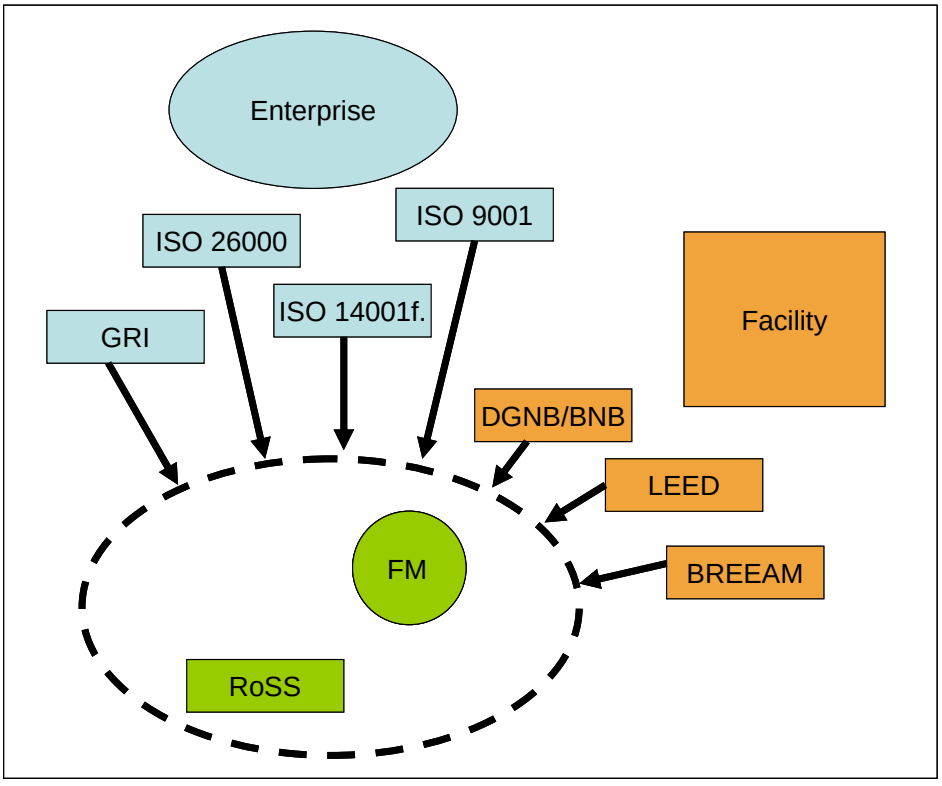

Fig. 2: interfaces of GEFMA guideline on sustainability in FM to existing standards/systems

The research project “RoSS – Return on Sustainability System” [13, 14] undertook a first attempt to define a specific accounting system for the sustainability of FM industry. It developed a set of 20 KPIs in a process of iterative consultations with FM practitioners [15]. RoSS reflects the triple bottom line of sustainability and defines KPIs for the level of management as well as for the level of

FM processes [16]. The following KPIs are defined in RoSS for the process level of FM:

- ratio of space occupation for FM,
- ratio of redone processes,
- ratio of additional management effort
- ratio of green suppliers
- ratio of green facilities,
- ratio of services done by own personal.

5. First results of discussion process

Discussions in the working group lead to these decisions: general principles of sustainability in FM have to be the basis on which KPIs can be stated. A differentiation as shown in fig. 3 seems to be necessary in order to address the different context in operative versus strategic management and in technical versus other services.

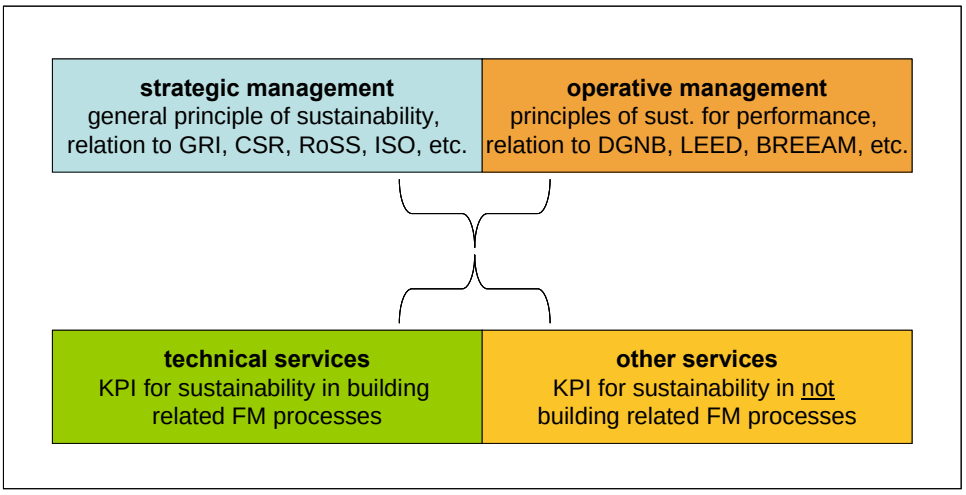

Fig. 3: structure for guideline on sustainability in FM

There will be a set of compulsory KPIs complemented by optional KPIs. It is mandatory that FM has possibilities to influence a KPI during the phase of use of a facility. KPIs need to include the supply chain of FM. Most important is that KPIs shall not use square meter or similar units for benchmarking but functional units e.g. fulltime workplace.

Fig. 4 shows the system to calculate the share of FM in the achievement of sustainability for the primary process, the staff and the facilities of the FM customer. Like in the case study on green FM [17] the contribution of FM is calculated as the difference between the value at the beginning and the value at the end of the period under consideration.

But this difference in an absolute measure and not jet suitable for comparison because a reduction of e.g. energy consumption may be easy to achieve in a facility with high need for modernisation but difficult in a facility that already shows the actual state of the art in energy saving (early bird problem). Therefore a rating will be necessary for both values (at beginning and end of period). This rating shall relate to national or international standards e.g. energy efficiency grades (European Union). If no standard is existing new categories are to be defined.

The final KPIs to measure the contribution of FM, e.g. to the reduction of consumptions, shall follow a national standard (or assessment system) in order to achieve maximal compatibility.

The sustainability of the FM provider himself is addressed in “sustainability in the supply chain”. There the quality of the provider can be assessed according to GRI or RoSS.

contribution of FM to ►►►►►►►► measuring: - values at beginning and end of period - rating for both values (e.g. low, medium, high) - percentual change	**cost reduction** (separately for consumptions and other costs)
	increase of value (facility)
	efficient use of space in primary process
	reduction of consumptions (electricity, heating, cooling, water, other materials, separately for non renewable resources)
	reduction of emissions (CO2 et al., waste, waste water, chemicals, etc.)
	improvement of safety, health, learning of individuals in primary process
	social improvements societal perspective
	quality of information (for all stakeholders, during the lifecycle of the facility)
	sustainability in supply chain (FM activities or FM enterprise assessed e.g. according to RoSS)

Fig. 4: system to quantify the share of FM in the achievement of sustainability for the primary process, the staff and the facilities of the FM customer

6. Conclusion

6.1 Discussion

In the beginning it was stated that KPIs for sustainability in FM have to be practicable and easy to communicate as well as compatible with existing systems for sustainability regarding enterprise and/or facility. There may be doubts if both conditions can be fulfilled at the same time. As a matter of fact the German DGNB system is a challenge for all stakeholders involved. With the above shown interface to a system like DGNB this challenge is inherited in the KPIs for FM.
On the other hand the GEFMA workgroup prefers to initiate a future process of simplification for the assessment of the facility instead of creating another, additional, new system.

Also one may miss a substantial innovation in the outlined KPIs for FM. The specifics of FM acting in and at a facility that is owned by the FM customer lead to the close adaptation of systems that assess the sustainability of facilities. Therefore it is relevant to describe the share of FM in improving the sustainability of the facility in detail. The proposed calculation of the difference between values e.g. of consumption of non renewable energy at the beginning and the end of the assessed period presumes that both values are available. This may not always be the case. But both values are necessary for communication, motivation and management. Therefore the amount of necessary data shall not be a reason to disapprove of the suggested method.

Innovative potential is to be seen in the field of “efficient use of space in the primary process” of the customer. Even though DGNB assesses the relation between gross space and space of use there is more to be assessed than that. The relation of space of use to workplace or other functional units shows a different potential for improvement, more connected to the primary process than the facility.

The other new topic is “Quality of information – for all stakeholders, during the lifecycle of the facility”. In DGNB there exists already a KPI “Documentation for Facility Management” including user manual and plans for operation and maintenance. But FM is also responsible for the management of this information during the lifecycle of the facility, i.e. for keeping the information up to date and for supplying it with adequate IT-systems, etc.

Finally this is only a “screenshot” of work in progress. Constructive discussion on the day of presentation is welcome.

6.2 Conclusions

Sustainability in FM is a contribution to the sustainability of a facility which is not in the possession FM provider but is operated and maintained by him. This leads to the concept of quantifying sustainability in FM with a broad interface to existing systems for the assessment of sustainability for facilities.

In addition to that it is recommended to emphasise the sustainable use of floor space. Space is a resource that affords high economical effort (investment, rent) and also leads to ecological consumptions for operation and maintenance. Therefore the efficient use of space – in the primary process of the FM customer- was added to the usual sample of facility oriented KPIs for sustainability.
Also the availability of information on the facility during its lifecycle has been declared a KPI with important influences by FM.

On the other hand FM has its own processes like any enterprise. The sustainability of FM processes or of the whole FM enterprise can be assessed according to the system GRI or RoSS. The latter offers 20 KPIs for the levels of management and of processes. This contribution to sustainability of the FM supplier is integrated as “Sustainability in the supply chain”.

Thus sustainability in FM can be accounted separately from the facility and the primary processes of the FM customer, but with a precisely defined relation to both.

7. References

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