Environmental criteria for sustainable public procurement of

Rental and Purchase of Office Buildings

Version 8 April 2015

1. Scope/definition

Rental and Purchase of Office Buildings includes the purchase of existing office buildings and rental contracts for entire buildings (so not for one floor in an existing multi-tenant commercial building). Criteria are also included for replacement of the build-in package. This is mostly the case if a new user and/or a new function is accommodated in the building. The criteria apply only to the office function.

Monuments: Given the extremely diverse nature of these buildings, these criteria do not apply to monuments. Although great improvements in the field of sustainability are often possible in monuments, these must be considered case by case with respect to the monumental character.

Any renovations of such buildings require careful consideration of the criteria for renovation.

2. Most significant environmental effects

The government opts for a performance-based approach to the leasing and purchase of office buildings. The table in annex 1 has been developed to facilitate this. The table addresses the following themes:

- energy conservation
- materials use
- health in buildings/interior environment

Annex 1 also includes explanatory notes for each theme, and summarises the calculation methods. Annex 2 lists the premises assumed at the time of drafting this document.

A number of other themes are relevant, but no criteria for these themes have been drafted; for those themes, this is left for the contracting authority to consider doing. They include:

- materials with low emissions of volatile organic compounds (VOCs)
- view in each working area
- water management
- openable windows in each working area
- individually adjustable sun blinds
- individually adjustable temperature
- total accessibility

3. Points of attention/suggestions

Devoting attention to the opportunities and possibilities for the most sustainable procurement possible in the preparation phase will lead to specifications that are more ambitious or of different types than the standard minimum requirements and award criteria set out in this document. The following table presents points for attention and suggestions for promoting sustainability in procurement within this product group.

No.	Points of attention/suggestions (AS)
AS1	**Specifics of adaptive capacity or future value** The performance criterion adaptive capacity or future value is on the agenda, but is not yet fully worked out in detail. The goal of this criterion is to be able to say something in design and specifications about the preservation of substances in the process, such as the expected construction and waste flows during the use and conversion. Part of this involves a cohesive approach to the entire life cycle of the building. For example, the design takes into account the degree to which the building is suitable for a redesigned or different use function. VNO/NCW and MKB-Nederland have been working closely with the construction sector and governmental agencies to operationalise this criterion. Their results have been published on http://www.adaptiefvermogen.nl/ .

4. Selection criteria

Not defined for this product group.

5. Technical specifications

No.	Technical specifications (ME)
ME1	**Sustainability performance** The tenderer will complete a building that is in compliance with level C for every sustainability category as set out in the table in annex 1 and described in more detail in the explanatory notes to that table. The tenderer will include with the tender a description of the performance offered and will substantiate this with corresponding calculations. These calculations must be carried out in accordance with the appropriate calculation methods as described in the explanatory notes to the table in annex 1. The text above could be incorporated into the schedule of requirements, and the annex could be added in its entirety to the schedule of requirements. *Verification* For documentation for the purposes of the handover, see contract clause 1.

6. Award criteria

No.	Award criteria (GC)
GC1	**Higher sustainability performance** The higher the individual aspects of building performance as described in the table in schedule 1, the higher the tender will be rated. *Explanation* This award criterion is a supplement to the minimum requirement. See the explanatory notes. You must assign the rating yourself. The table identifies different classes and suggests point allocations. The background to the breakdown into classes is included in annex 1. Naturally, other methods of rating are also possible. If you expect tenders to score very close together, or if you expect a tender to score higher than the highest class on the table, one option would be to use a sliding scale. In this case you would not be working with classes, but you would rate a higher score with a percentage of the maximum number of points that you wish to assign to the building performance in question. For this, you must define a maximum score or compare tenders against each other. However you do this, you must describe your procedure clearly, in advance, in the tender documents. *Verification* For documentation for the purposes of the handover, see contract clause 1.

7. Contract provisions

No.	Contract provisions (CB)
CB1	**Documentation of sustainability performance** For the purposes of the handover of the building the contractor will supply documentation of the performance level achieved, with calculations and measurement data where relevant.
CB2	**Maintenance plan and operations guide** Upon handover of the building the contractor will supply a maintenance plan setting out the maintenance steps to be taken over the life cycle of the building. The maintenance plan will include at least the following components:

	• description of the components and materials used • description of the inspection and maintenance intervals for the entire building, including systems, with corresponding instructions (at a minimum, description of inspection points, methods, maintenance activities and required materials) • description of the way in which materials and components can be removed or demolished in an environmentally responsible way In addition, an operations guide will be provided. This guide explains how to use the building in the most sustainable manner. The operations guide will include at least the following components: • description of the intended use of the systems in the building (configuration, automatic settings, options for optimisation during use period, etc.), and • description of the sustainable materials and components used and the way to handle them during the operations period.

Annex 1 – Details of minimum requirement, award criterion and contract clauses

	Energy		Materials	Health in buildings				
	Energy performance	**Own generation of sustainable energy**	**Environmental performance**	**Noise in occupation areas Workspaces**	**Indoor Air Quality, ventilation capacity**	**Blowdown ventilation**	**Thermal comfort,**	**Natural light incidence in workspace for long-term use > 2 hours*** **
Level A1.	Label A+ **x points**	50 % independent generation **x points**	No level specified	Adjust in accordance with explanatory notes for classes B and A	No level specified	No level specified	No level specified	No level specified
Level A2.								
Level B1.	Label A **x points**	25 % independent generation **x points**						
Level B2.		10 % independent generation **x points**						
Level C	- Label B (for purchase and leases ≥ 5 years) - Label C (for leases < 5 years and > 2 years) - No label (for leases ≤ 2 years or extensions) **0 points**	No level specified	100% Sustainable Procurement of wood For lease + build-in package: flexible build-in package. (see explanatory notes) **0 points**	Class C (see explanatory notes) **0 points**	8.3 $dm^3/s.pp$ **0 points**	3 dm^3/s per m^2 of working area Or: 6 dm^3/s per m^2 of working area **0 points**	Class B (see BF-HB NVBV) **0 points**	100% of workspaces designated for long-term occupancy within max. 3 m of outside wall and/or direct natural light incidence **0 points**
Basic level	The building must be in compliance with all statutes governing existing buildings							

* Where necessary, the terms appearing in the table are defined in the explanatory notes.
** If no changes that would affect the airflow features are made, these requirements do not apply.
*** If desk is > 3 m from outside wall, check minimum daylight factor of 1% at the workspaces (horizontal plane at height of 800 mm).

Explanatory notes to table 1

With Sustainable Procurement, the government opts for a performance-based approach. The table is based on the assumption that the effects can be quantified using generally accepted calculation methods, so that the level of performance achieved can be determined simply and in a verifiable manner. Wherever possible, this has been done using calculation methods stipulated in other legislation.

As basic value, the table adopts the legal standard for new construction (wherever one is available). For the purposes of Sustainable Procurement, a performance requirement in excess of this statutory basic value is selected for a number of aspects. Secondly, the class breakdown presents a clear picture of the performance to be delivered in order to achieve an added value. This relies on either the class breakdown as already used in practice (for example, thermal comfort) or an indication of the percentage of the basic value.

Several levels are indicated, to give the purchaser/user a level of choice. To be able to compare the descriptions objectively, points could be assigned to the individual classes.

The individual themes are quantified using the following calculation methods:

	Theme	Calculation method, Rental and Purchase
Energy	Energy performance	Existing building energy label NEN7120*, if completed, otherwise ISSO 75
	Own generation of sustainable energy	x% = (Eownparcel/Ep,adm,tot,nb) *100% according to NEN 7120 or ISSO 75
Materials	Wood	www.inkoopduurzaamhout.nl
	Flexible build-in package	See explanation in annex 1
Health	Acoustic comfort of workspaces	Quality levels according to the NVBV** Handbook of Building-Physical Quality of Office Space with reference to NEN 5077
	Indoor Air Quality, ventilation capacity	NEN 1087 and NVBV Handbook of Building-Physical Quality of Office Space
	Thermal comfort	ATG according to ISSO 74, NVBV Handbook of Building-Physical Quality of Office Space and ISSO 32.
	Natural lighting incidence	Distance from natural light openings < 3 m or Daylight factor [DF] = Eroom/Eopen field *100% (natural light simulation programmes with CIE-overcast sky).

* For all standards, the version applicable at the moment of the announcement of the tendering procedure applies.
** *Nederlands Vlaamse Bouwfysica Vereniging* (Netherlands-Flanders Association of Building Physics)

Further explanation of each category is provided in the following. If no changes are made to a particular feature (for example, natural light openings or airflow features), compliance with the requirements need not be substantiated, but a statement that no changes were made must be specifically indicated.

Energy performance

Objective of requirements
The goal of this requirement is to improve the energy performance of buildings with respect to the legal minimum standard.

Explanation of calculation method
Calculation method: NEN7120, including NVN7125: EPCusi Q (100%-x%)*EPCusi, standard or ISSO 75.
The requested performance is expressed in an energy label.

Explanation of Sustainable Purchasing threshold
The underlying goal is the reduction of the use of fossil fuels. For existing construction, the obligation to produce an energy label is adopted. The minimum performance for a building to be purchased/leased depends on the contract duration. Experience in practice has shown that compliance with an energy label of C is the average standard. To promote sustainable procurement, the minimum performance for long-term leases is set at energy label A.

Lease ≥ 5 years: min. energy label B
Lease < 5 years > 2 years: min. energy label C
Lease ≤ 2 years: no energy label requirement

Documentation (this must be included in the contract)
Upon handover of the building, the contractor must demonstrate that the agreed energy performance is attained. This can be done with an energy label in accordance with the applicable standards. The contractor must also demonstrate that the current state of the building is in accordance with the material content of the calculation (construction-technical and systems-technical).

Own generation of sustainable energy

Objective of requirements
The goal of this requirement is to promote the use of renewable energy sources that generate capacity at the location itself or in the immediate vicinity.

Explanation of calculation method
Calculation method: NEN7120, including NVN 7125: x% = (Eownparcell/Ep,adm,tot,nb) *100%

The energy generated at the space (Eownparcel [MJ]) in relation to the permissible characteristic energy consumption (Ep,adm,tot,nb [MJ] in accordance with NEN7120, including NVN 7125) is evaluated. The amount of energy generated at the space consists of an item for the electricity generated at the space (Epr;el;gi) and the contribution to sustainable energy generation as described in section 5.4.4 of NEN7120:2011.

Passive solar energy, utilisation of natural light for lighting and thermal solar energy (see also section 5.4.4 of NEN7120:2011) are not included here. For the calculation of the quantity of electricity generated at the space (Epr;el;gi), see section 5.4.5 of NEN7120:2011.

Explanation of Sustainable Purchasing threshold
Setting a requirement on the generation of renewable energy at the space promotes not only energy-efficient construction but also on-site generation of sustainable energy. "Renewable energy sources" are defined as wind, solar, ambient air/surface water/geothermal heat, energy from the oceans, hydroelectric power, biomass, landfill gas, sewage treatment gas and biogas, all as defined in section 1, paragraph 1(t) of the Electricity Act 1998. For existing buildings, there is no predefined calculation method; the requirements for new construction are adopted here. There is no standard set of requirements stipulated for on-site energy generation. If desired, higher values may be required or rated more highly in the tendering procedure.

Documentation (this must be included in the contract)
Upon handover, the contractor must submit the calculations demonstrating that the percentage of energy generated on-site is attained. The contractor must also demonstrate that the current state of the building is in accordance with the material content of the calculation (construction-technical and systems-technical).

Sustainable Timber

Objective of requirements

Wood to be used in the building and in products to be delivered, where this wood remains in the work, must be wood that is demonstrably sustainably produced.

Explanation of Sustainable Purchasing threshold
Raw wood to be supplied, or wood incorporated into wood products or other products to be supplied, must meet the Dutch Procurement Criteria for Timber set out in the TPAS (Timber Procurement Assessment System). The wood must be in compliance with at least 7 of the 9 principles for sustainable forest management.

Documentation
Wood will be assumed to meet the criteria if it is certified in accordance with a system approved by the TPAC (Timber Procurement Assessment Committee).

The tenderer may also furnish other evidence, accompanied by extensive, documented and verifiable data and information demonstrating that the set minimum requirement is met.
A list of approved certification systems can be found on the website: http://www.tpac.smk.nl/170/about/judgements.html

Explanation
More information on the procurement of sustainably produced wood and paper can be found on: www.inkoopduurzaamhout.nl. An example of specifications defined for sustainably produced wood can be found on: www.inkoopduurzaamhout.nl/bestek.

General information on the prescription and verification of sustainably produced wood can be found on: www.houtdatabase.nl. The complete TPAS criteria can be found on the website:
http://www.tpac.smk.nl/Public/TPAC%20documents/DutchProcurementCriteriaMAR2014.pdf

Flexible build-in package (for modification or replacement of the build-in package)

Objective of requirements
The goal of the requirement is to prevent and limit extra environmental impact from the use of materials that are not easily adaptable or replaceable.

Further explanation of classes
The owner/landlord must implement the requested modifications to the build-in package in such a way that this can easily be moved or removed.

For this, the following requirements must be met:

- Internal walls to be newly installed must not be made load-bearing.
- Cables and pipework must not be installed in fixed/load-bearing walls.
- The floor and ceiling finishes must be able to be reunified simply upon removal of internal walls. Consequently:
    - there must be no height difference between the floor finishes on each side of a non-loadbearing wall
    - the ceiling finish on each side of a non-loadbearing partition wall must have the same ceiling height, grid size and final finish

Explanation of Sustainable Purchasing threshold
In applying a new build-in package upon lease or purchase of a building, this package must be selected such that minor changes in layout (for example, in response to changing space needs) will not necessitate a large-scale renovation to make the space workable and orderly.

Documentation (this must be included in the contract)
The operation guide for the building must include procedures on how to remove non-loadbearing interior walls and finishing instructions for the floors and ceilings. Upon handover, this guide must demonstrate that these activities can be done fairly simply.

Noise in work areas, workspaces

Objective of requirements
The goal of the requirement is to prevent and limit nuisance from noise, in order to promote a healthy and comfortable work environment.

Further explanation of classes

Class A: The office building is designed for a high level of acoustic comfort, with attention to speech intelligibility and conversational discretion at the relevant workspaces. Additionally, all furnished and unfinished office spaces are in compliance with the requirements for echo and all workspaces are in compliance with tables 34-38 of the Handbook of Building-Physical Quality of Office Space, and the noise nuisance from on-site systems is limited.

Class B: All workspaces are in compliance with tables 34-38 of the Handbook of Building-Physical Quality of Office Space.

Class C: All furnished and unfinished office spaces are in compliance with the requirements for echo in the Handbook of Building-Physical Quality of Office Space. At least 60% of the workspaces in all categories meet the acoustic quality requirements of tables 34-38 of the Handbook of Building-Physical Quality of Office Space, and these spaces are identified as such.

Explanation of calculation method
NEN5077, NVBV Handbook of Building-Physical Quality of Office Space

Explanation of Sustainable Purchasing threshold
The buildings decree does not set requirements on the noise comfort level of a space. For Sustainable Procurement, the class breakdown is based on the quality levels defined in the NVBV Handbook of Building-Physical Quality of Office Space. For further elaboration of the acoustic requirements in the building, see this Handbook. The minimum level for sustainable procurement is Class C. If desired, higher classes may be required or rated more highly in the tendering procedure.

A 2 dB concession may be applied to the minimum air noise pressure level discrepancy to the work areas (DnT,A) as compared to the levels given in the NVBV Handbook of Building-Physical Quality of Office Space. In specific terms, this means that a minimum air noise level discrepancy to the work areas (DnT,A) of 37 dB (rather than 39 dB) is required. If desired, higher classes may be required or rated more highly in the tendering procedure.

Documentation (this must be included in the contract)
Upon handover, the contractor must demonstrate that in the present state of the building, the agreed performance levels on the prevention and limitation of noise nuisance are attained. This must be demonstrated based on measurements of the result.

Indoor Air Quality, ventilation capacity

Objective of requirements
The goal of the requirement is to improve air quality in work areas, in order to promote a healthy and comfortable work environment.

Explanation of calculation method
Calculation method NEN1087

The required volume of air circulation per person must be calculated based on the number of persons in the integrated environmental permit application.

Explanation of Sustainable Purchasing threshold
Sustainable Procurement assumes a volume of 8.3 dm^3/s per person. This figure is adopted from previous studies and quality levels maintained in other publications (including the Handbook of Building-Physical Quality of Office Space). Increasing the ventilation capacity further is not included in the criteria for Sustainable Procurement. Other aspects, such as ventilation efficiency, draft-free air circulation, etc., play a more important role in further increasing the sustainability of this aspect. At present, these cannot be easily and objectively quantified. For the time being, the higher levels will be left undefined.

Documentation (this must be included in the contract)
Upon handover, the contractor must demonstrate that in the present state of the building, the agreed performance level of ventilation capacity is attained. This will be demonstrated by measurements coordinated for the maximum occupancy of the spaces.

Indoor Air Quality, airflow capacity

Objective of requirements

The goal of this requirement is to achieve an airflow capacity such that the users can temporarily influence the air quality in work areas to promote a healthy and comfortable work environment. Building users are given adequate options to influence the supply of fresh air, to allow them to efficiently clear out any sudden increased air contamination.

Explanation of calculation method
Calculation method: NEN1087. The availability of adequate airflow capacity for the square footage of a work area and/or occupied space of an office function must be demonstrated.

Explanation of Sustainable Purchasing threshold
Sustainable Procurement assumes 3 dm^3/s per m^2 of work area or 6 dm^3/s per m^2 of occupied space. The airflow ventilation features must be placed in each individual space/area. The requirements are set on the work areas or occupied space of an office function. Meeting rooms, reception desk areas, gatehouses, etc., may be disregarded for the calculation.

Documentation (this must be included in the contract)
Upon handover, the contractor must demonstrate that in the present state of the building, the agreed performance level of airflow capacity is attained. The contractor must also demonstrate that the current state of the building is in accordance with the substantive content of the calculation.

Thermal comfort

Objective of requirements
The goal of the requirement is to improve thermal comfort in work areas, in order to promote a healthy and comfortable work environment.

Explanation of calculation method
Handbook of Building-Physical Quality of Office Space, ISSO 74 and ISSO 32.

The ATG value is a predictor of the number of persons with issues relating to the thermal comfort.

Explanation of Sustainable Purchasing threshold
Sustainable Procurement assumes a minimum of 80% persons without issues (class B). Use the flowchart of ISSO 74 to determine the building/climate type for making this calculation. The class breakdown is based on the quality levels as defined in the Handbook of Building-Physical Quality of Office Space. The Handbook and ISSO 32 also provide premises for this calculation. For further elaboration of the thermal comfort requirements in the building, see these publications. The requirements are set on all workspaces intended for long-term (= more than two hours) use.

Documentation (this must be included in the contract)
Upon handover, the contractor must demonstrate with calculations that the agreed performance level for thermal comfort is attained. The contractor must also demonstrate that the building is constructed in accordance with the substantive content of the calculation.

Natural lighting incidence

Objective of requirements
The goal of the requirement is to improve natural light incidence in work areas, in order to promote a healthy and comfortable work environment.

Explanation of calculation method
The daylight factor (DF) is calculated using natural light simulation programmes with a CIE-overcast sky. Daylight factor: relationship between the illumination strength at a point in the room as compared to the horizontal illumination strength in open space under an overcast sky. The calculations for this requirement are based on workspaces at a horizontal plane 800 mm above the floor.

DF = Eroom/Eopen field *100%

Assumptions to be used in the calculations:

light reflection factors maximum: walls = 0.5; ceiling = 0.7; floor = 0.1.

If there are no changes in the outside wall openings, the requirement is: direct natural light incidence is mandatory. The new classification of the work areas must be such that at least 80% of the workspaces are located within 3 metres of an opening in the outside wall.

Explanation of Sustainable Purchasing threshold
For Sustainable Procurement, an additional requirement for a healthy and comfortable work environment is set above the natural light incidence requirement of the Buildings Decree. All workspaces in an office function intended for long-term use (more than 2 hours) must be located within 3 metres of the outside wall and have direct natural light incidence. If the distance to the outside wall is greater than 3 metres, the contractor must demonstrate that the minimum daylight factor at the workspaces is 1% (horizontal plane at 800 mm height).

Documentation (this must be included in the contract)
Upon handover, the contractor must demonstrate that the agreed performance on natural light incidence is obtained. Calculations must be used to demonstrate that the daylight factor is adequate. The contractor must also demonstrate that the agreed natural light features are actually present.

Annex 2 - Assumptions

Based on the needs, the following premises were used in the drafting of this document.

- Sustainability is becoming an increasingly important principle in the quality policy pursued within the construction sector. Sustainability is a broad concept. Under the three Ps of sustainable development (People, Planet, Profit), new aspects are emerging alongside older and more familiar ones as elements of "sustainability" in office buildings and building systems. The goal is to reduce the environmental effects of material and energy use over the entire life cycle of a building or construction work, without compromising the quality of the indoor environment in the process. Reuse of buildings and materials is part of this.

- A performance-based approach, in which the sustainability effects across the entire life cycle are considered, and built on the prescriptions and calculation methods of the Buildings Decree 2012, is called for. The trend in construction is to work under integrated contracts and with functional and performance-based requirements at the building-level (solution-free). Working with performance requirements is preferable to working with a checklist or list of measures.

- This means commitments with the parties in the construction process on reductions and threshold values to be achieved.

- An important point of attention here is using consistent calculation methods for the various environmental themes, in order to allow clarity and verifiability for all parties. Wherever possible, this must be done using calculation methods already stipulated in other legislation. One calculation can be used for several purposes. This leads to a minimum of administrative burden and offers opportunities for benefits to the business sector and society. Parties and institutions can then build on these to create their own quality classes. A national classification system should emerge to foster a level playing field and clear communication, and prevent undue administrative burden.

- The performance-based focus at the level of building or construction offers design freedom and opportunities for innovation. This type of approach depends on the environmental effects of energy and material use being clearly and verifiably calculated, and that the aspects of health and comfort in the indoor environment can be tested. This way, sustainability values can be declared and expressed in joint contracts, Sustainable Purchasing, building certifications, etc. This performance-based approach is in keeping with the European policy agenda on the individual construction products and complete construction works (including activities within CEN/TC 350 "Sustainability of Construction works"). The performance-based approach is also being further pursued in consultations at the European level.

Based on all this, performance criteria have been drafted for:

- energy conservation
- materials use
- health in buildings/interior environment