



Introducing sustainable summer comfort in the public sector

Elements for Codes of Conduct for public agencies when acting as landlords

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Table of contents

- 0 Introduction..... 3
- 1 The landlord’s own strategies for sustainable summer comfort..... 4
- 2 Checklist for dialogue with tenants..... 5
 - 2.1. Temperature setting..... 5
 - 2.2. Sun shading..... 5
 - 2.3. Lighting systems..... 6
 - 2.4. Office equipment 6
 - 2.5. Clothing 6
 - 2.6. Furniture 7
 - 2.7. Opening of windows 7
 - 2.8. Activity..... 7
 - 2.9. Rental agreements 8
- 3 Test of codes of conduct 9
 - 3.1. The real estate owner 9
 - 3.2. The tenant 9
 - 3.3. The meeting..... 9
 - 3.4. Sun shades 10
 - 3.5. Lighting..... 10
 - 3.6. Office equipment 10
 - 3.7. Clothing 10
 - 3.8. Opening of windows 10
 - 3.9. Activity and flexible entry times 11
 - 3.10. Temperature settings 11

0 Introduction

Sustainable summer comfort can be defined as achieving good summer comfort conditions with no or limited use of conventional energy and through the use of environmentally non-harmful materials. This implies choosing a path that minimizes life-cycle energy consumption at an affordable net cost, from a variety of technological or design options, ranging from architectural choices to the use of appliances.

But introducing sustainable summer comfort in the public sector is not only a technical issue. It is also a matter of good leadership and communication between landlords and tenants. How should you act as a public landlord to achieve sustainable summer comfort? **This paper suggests “codes of conduct” for public agencies when acting as landlords.**

This paper includes:

1. The landlords’ own strategies for sustainable summer comfort
2. A checklist for dialogue with tenants
3. Report from the test of the codes of conducts developed

The results of the discussions with the tenants can be used as a specification to the summer comfort agreements (e.g. what office equipment etc the tenants purchase and use). The landlord can only fulfill sustainable summer comfort if a number of criteria are fulfilled by the tenant. This has to be specified in a contract (e.g. energy efficiency standard of equipment installed by the tenant, hours of use, the handling of sun shades etc.)

I The landlord's own strategies for sustainable summer comfort

By following the steps below the landlord will minimize the energy use for cooling the building.

1. Follow the six steps to achieve sustainable summer comfort in the toolkit of Keep Cool. These are:

- o Define the thermal comfort
- o Reduce internal heat loads
- o Reduce external loads
- o Use passive means to remove energy from the building
- o Consider active solar assisted cooling plants
- o If necessary, consider efficient conventional cooling

2. Define the summer comfort levels in an agreement with the tenant and explain the practical meaning of the comfort levels.

3. Define under what circumstances the comfort levels will be achieved (define the criteria in cooperation with the tenants). The criteria could include the handling of sun shades, the lighting installed by the tenant etc.

4. Organize regular meetings with tenants discussing summer comfort. The purpose of the meetings is to give feedback to the landlord on the comfort and if there are any problems with the agreed criteria/responsibilities of the tenants. Possible improvements should be discussed.

5. Adapt continuously the O&M strategies.

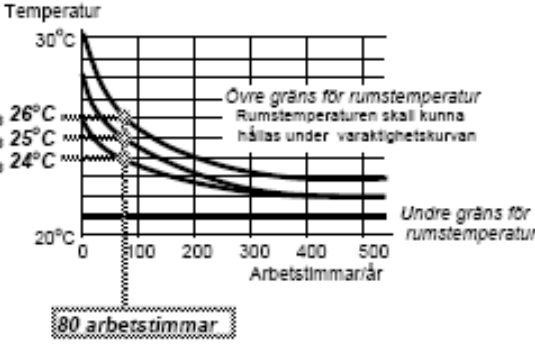
6. Develop a model for sharing the profit (if there is any) if tenants agree to cooperate in decreasing the cooling demand.

2 Checklist for dialogue with tenants

The checklist is an example of which parameters could be included in a discussion between landlord and tenant concerning summer comfort.

2.1. Temperature setting

Discuss and agree on what temperatures are to be met. Is there any time of year the comfort temperature could be exceeded? How many hours a year? Discuss the cost of reducing the number of hours the temperature is exceeded.

| | |
|---|---|
| <p>Termisk Klimat Temperaturkrav</p> | <ul style="list-style-type: none"> ○ Under arbetstid skall rumstemperaturen alltid kunna hållas under en <i>övre gräns</i>, definierad i form av en varaktighetskurva ○ Under arbetstid skall rumstemperaturen alltid kunna hållas över en <i>undre gräns</i>, +21°C <p>Temperaturnivån definieras som "BELOK-klass" med temperaturen t_B</p>  |
| | <p><i>Exempel $t_B 25$</i></p> <p><i>Rumstemperaturen skall kunna väljas så att den inte överstiger +25°C mer än 80 arbetstimmar per år.</i></p> <p><i>Rumstemperaturen skall kunna hållas över +21°C</i></p> |

An example on recommendations for indoor temperatures in Sweden

2.2. Sun shading

Discuss how to operate manual sun shades and who is responsible? Does the tenant have the correct instructions? Is a guide or short training course an option?

Define how the shades should be used in different directions. If possible present to the tenants how much a correct use of sun shading influences the cooling needs.

Discuss if automatic controls should be installed for a more correct handling of sun shades.

2.3. Lighting systems

Discuss requirements on the lighting installed. The guidelines below can be used.

Discuss who is responsible for lighting systems. Sometimes the landlord is in charge of the fixed fixtures installed and the tenants are in charge of the fixtures on each desk

Results from D.3.2. to be included here.

Discuss the use of the lighting system. Are there any possibilities for improvement? Is the lighting only on when the daylight is not enough and when someone is present (working, cleaning or just passing by)? How can this best be controlled (manually, by a clock or by automatic controls)?

2.4. Office equipment

Discuss the office equipment purchased (the guidelines below can be used) and how it is used. Is the equipment turned off when not used? Is energy saving options installed and used?

Results from D.3.2. to be included here.

Discuss with the IT-system managers how energy saving configuration should be activated in all computers and other office equipment.

Discuss how to best activate users to make the best use of energy saving features, incl. switching off equipment.

The benefits and reasons why equipment should be turned off must be communicated IT-managers and users.

2.5. Clothing

Discuss the dressing code inside the bureau. A flexible dressing code should be encouraged. For those who have external meetings they could have a wardrobe in the office with ties, jackets and shoes if necessary.

| |
|---|
| No ties No jackets Sandals instead of shoes Short-sleeved shirts |
|---|

Short pants
Light materials
Light colours

Example of light summer outfits

2.6. Furniture

Discuss the use of furniture and if the use of for instance “cool chairs” could be an option.

If high indoor room temperatures are a problem a major part of the year also furniture should be considered as they also influence thermal comfort. Normal chairs heat up, and work just like additional clothing. Both form and material influence the thermal characteristics of chairs. Specific “cool chairs” are available: These have a mesh structure on the back and/or seat, allowing the air to circulate around those parts of the body that normally heat up the chair.

2.7. Opening of windows

Discuss the opening of windows. Guidelines below can be used.

Windows exposed to the sun should not be opened.

When the outdoor temperature is lower windows should be opened.

Windows exposed to the sun should not be opened.

When the outdoor temperature is lower windows should be opened. Cooler night air should be used e.g. by long-working employees who can aerate in the evening hours. Due to insurance reasons it is often forbidden to let the windows opened at night. Every company has to clarify how windows can be opened for each building.

2.8. Activity

Discuss the possibility of establish flexible entry and exit times to allow individual accommodation to high temperature periods. Guidelines below can be used.

Change typical “9 to 5” office hours to a so called intensive or continuous shift or working day which goes from eight am to three pm with a short break (20-30 min.) for a breakfast.

Consider “heat wave holidays” for people at risk in during high temperature periods.

Allow for a “siesta” in hot regions or high temperature periods.

2.9. Rental agreements

The results of the discussions should be attached to the rental agreement along with an agreement on how to share costs and profits. Costs could be installations of sun shades etc and profit the reduced energy use.

3 Test of codes of conduct

The purpose of testing the codes of conduct is to see if they are appropriate in a "real" situation when a landlord is discussing summer comfort issues with a tenant.

We tested this by participating in a meeting between a landlord and tenant. In general the codes of conducts elaborated within KeepCool II worked well to use at this meeting. An update of the codes of conduct where the order of the issues discussed was done after the meeting.

3.1. The real estate owner

The codes of conduct were tested in cooperation with the real estate owner Brostaden. Brostaden owns and runs properties in the surroundings of Stockholm. The real estate portfolio consists of office and retail properties as well as warehouse and industrial properties concentrated in expansive inner suburbs with good service and communications. The through routes in Greater Stockholm locate nearby the warehouse and industrial properties, in total 87 properties with a total area of 517 000 m². Brostadens head office is in Stockholm. Brostaden is the first GreenBuilding corporate partner in Europe. This means Brostaden has to reduce energy use by at least 25% in 30% of their properties. Today 32 of the companies 87 properties fulfil the GreenBuilding requirements. This programme is run by Bo Matsson.

3.2. The tenant

The tenant was the company Babyland at Kungens Kurva just outside Stockholm. This is where the head office of Babyland is. The properties consist of offices, warehouse and a store. Babyland sells products for children aged 0-3 years. It is a privately owned family business with in total 150 persons employed at 11 stores in Sweden.

3.3. The meeting

On November 5th a meeting was held between Brostaden (Erik Löfberg and Patrik Lindholm), Babyland (Stefan Stjernberg, vice president) and KeepCool II (Lotta Bångens). The goal and purpose of KeepCool II was described and Brostaden and Babyland described their companies. We then discussed the "Checklist for dialogue with tenants". The following points were made at the meeting:

There were two reasons why Babyland found KeepCool interesting. The first was that Babyland has a high cost for electricity and is looking for ways to reduce the costs and that they are more and more interested in acting both environmentally and ethically well.

3.4. Sun shades

Parts of the buildings at Kungens kurva has sun shades. They were installed by Brostaden, but the responsibility now was on the tenant. There were no instructions from Brostaden how they should be handled.

3.5. Lighting

The fixed fixtures both in the office area, the warehouse and the store were installed by Brostaden, but Babyland pays for the electricity and for new light sources.

Some fixtures (the ones in the meeting room for instance) were not with electronic ballasts. Babyland had a bad experience from using electronic ballasts at another site.

Babyland has hired a consultant to look at the lighting systems. They are looking at more energy efficient spotlights etc. KeepCool informed Babyland about the requirements on lighting in stores from the national energy agency. The requirements are actually for grocery stores but many issues are the same.

In the store the lighting is only on when the store is open. In the windows a timer controls the hours of use. In the office area the lighting is divided in two sections that are turned on and off separately.

3.6. Office equipment

When buying new office equipment there are no requirements on energy from Babyland. The energy saving features are installed on computers and copying machines. The computers are never turned off because at night the system is updated and a back up is made.

All office equipment (except computers) is installed in a separate room.

3.7. Clothing

Babyland has decided to let the employees use shorts (not sporty but more strict shorts) and skirts (knee-long) during summer. (comment: Brostaden's employees are not allowed to use shorts).

3.8. Opening of windows

Babyland opens windows when it is too hot inside. They felt no need for instructions on when to open windows. It is quite obvious. They never leave windows open at nighttime because of insurance issues.

3.9. Activity and flexible entry times

This option is not relevant in Nordic countries according to Babyland. Employees never go home for lunch as the travel time often is too long.

3.10. Temperature settings

This was not in the contract between Brostaden and Babyland. Brostaden does what they have to, to make the tenant satisfied with the indoor climate. Brostaden has installed chillers in each room (and the meeting room) in the office area and also a new chiller in the store. There were no discussion on how to reduce loads before the installation.