NTT Group
Sustainability Design Guideline for Buildings

Version 1

December 2022

[Change History]

Ver No.	Date of issue	Content
Version 1	December 2022	Initial release

This guideline is a revised version of the NTT Group Green Design Guideline for Buildings [Version 2, 2000].

Introduction

The NTT Group has established the "NTT Group Sustainability Charter" and is promoting various initiatives with the aim of realizing a sustainable society through "growth as corporations" and "resolution of social issues". In the environmental field, the goal is to simultaneously achieve economic growth without placing a burden on the environment, by “decreasing the environmental burden of business activities” and “creating innovations that break through limits”. The NTT Group has newly enacted “NTT Green Innovation toward 2040” environmental energy vision, and are aiming to become carbon neutral by 2040.

In addition to promoting decarbonization, resource recycling, and environmental coexistence, there are calls for a wide range of initiatives related to buildings, such as the development of safe, reliable, and resilient environments in preparation for natural disasters, which have grown ever more severe in recent years, and people-friendly environments in which diversity, inclusivity, and health management can be promoted.

Against this background the “NTT Group Green Design Guideline for Buildings”, which until now have outlined the group’s guideline for environmental consideration in building design, has been replaced by the “NTT Group Sustainability Design Guideline for Buildings” (hereafter, referred to as “Guideline”), as a more broadly defined guideline.

With this Guideline, established based on the three NTT Group Sustainability Charter themes of “Ensuring the coexistence of nature and humanity”, “Improving prosperity for all people and cultures”, and “Maximizing wellbeing for all”, we are contributing to realizing a sustainable society through building design.

Table of Contents

1．Scope of Application

The Guideline applies to all the buildings owned and managed by NTT group companies, including those currently in use or those to be designed anew hereafter.

2．Guideline

The following items are adhered to in the building design. Further, voluntary efforts shall be made to achieve sustainable design even regarding the matters that are not mentioned in this guideline.

2.1 Items related to Ensuring the coexistence of nature and humanity

2.1.1 Creating a decarbonized society

（1） Increasing the longevity of buildings

① Securing flexibility

Consideration shall be given to ensure flexibility to be able to adapt to changes in functions, use cases, and users, etc anticipated during the life cycle.

② Ensuring maintainability

Ensure that cleaning, inspection, maintenance work, and other building and equipment upkeep can be carried out efficiently and safely.

③ Securing durability

Consideration shall be given to ensure minimal deterioration and facilitate functional maintenance against expected deterioration over the building life cycle.

④ Approach to renovation

Consideration shall be given to ensure that required renovation due to deterioration, failure, damage, functional incompatibility, that are assumed during the life cycle can be performed in a simple and appropriate manner.

（2）Controlling greenhouse gas emissions

① Reducing CO2 emissions

Consideration shall be given to design in a way that reduces CO2 emission across the whole lifecycle, from building construction to dismantling.

② Controlling the use of halogen and fluoro carbon

Building equipment utilizing halogen & chloro fluoro carbon shall not be newly or additionally installed. Efforts shall be made to prevent careless discharge or leaking of the gas from the existing building equipment, and at the same time, when using specified chloro fluoro carbons, these shall be replaced with alternative systems as promptly as possible. Additionally, fluoro carbons that are already being used shall, as far as possible, be converted to non-fluoro carbons.

（3）Promoting energy saving and the use of natural energy

① Reducing energy consumption

Consideration shall be given to reduce energy consumption by controlling the heat load on the building facade, and thus increasing the efficiency of equipment systems, etc.

② Use of natural energy

Consideration shall be given to effectively use natural energy in the use of natural lighting and ventilation, and the deployment of renewable energy, etc.

③ Energy saving during construction and dismantling

The selection of construction materials, construction equipment and methods used shall take low energy consumption into account.

④ Energy operation management

Consideration shall be given to the efficient identification and operational management of energy consumption, including the deployment of energy monitoring systems, etc.

⑤ Verifying energy efficiency

In principle, verification of energy efficiency should take place at the time of new construction or expansion.

2.1.2 Promoting the recycling of resources

(1) Resource conservation/effective utilization of resources

① Reducing the amount of disposed materials

Consideration shall be given to so that the amount of unused or disposed materials generated during the lifecycle shall be kept to a minimum and that thorough disposal management be maintained. In selecting building materials and equipment, due consideration shall be given to minimizing the unfavorable load that may be applied to the environment at the time of their disposal.

② Promoting the reuse and recycling

For removals or waste generated in the lifecycle, consideration shall be given to the promotion of both reuse and recycling, in order to reduce the amount of generated waste and improve the recycling rate

③ Promoting reuse of recycled materials and the like

Consideration shall be given to promoting the use of materials that can be recycled or reprocessed, and those produced by reprocessing waste materials.

(2) Protecting water resources

Consideration shall be given to the protection of water resources by selecting water-saving equipment and utilizing rainwater and greywater.

2.1.3 Consideration for the environment

(1) Reduction, elimination, and disposal of hazardous substances

Consideration shall be given to eliminate, as soon as possible, any substances that affect the human body or the environment or require methods of disposal (hereinafter referred to as "Hazardous Substances"), such as those designated as specially controlled industrial wastes, and are used in buildings. A safe and reliable disposal method will be selected for disposing of Hazardous Materials and disposal management will be thoroughly implemented. Additionally, such Hazardous Materials shall not be used when constructing buildings.

(2) Consideration for local and surrounding environments

Consideration shall be given to the effects on the local environment, including air, water, and soil pollution, as well as the surrounding environment, in terms of noise, vibration, odor, wind, sunlight, and light pollution, etc.

(3) Site feature considerations

Efforts shall be made so as to firmly grasp the environmental features of the site and the surrounding areas from a historical, sociological and geographical point of view, and consideration shall be given to the townscape, local character, and amenities.

(4) Preservation of biodiversity

Consideration shall be given to the use of parts and materials that conserve biodiversity and the natural environment, such as timber from sustainably-managed forests.

2.2 Items related to Improving prosperity for all people and cultures

2.2.1 Adherence to related laws and regulations

When designing buildings, consideration shall be given to ascertain and adhere to the most recent relevant laws and regulations and maintain high ethical standards.

2.2.2 Utilization of digital technology

Consideration shall be given to the digitalization of building information and the use of digital information, such as the deployment of Building Information Modeling.

2.2.3 Securing reliability and safety

(1) Response to natural disasters and the like

Appropriate countermeasures shall be carried out from the perspective of earthquake, fire, wind, water, snow, and infection prevention, in preparation for assumed risks, such as natural disasters and infectious diseases, etc. Additionally, consideration shall be given to the safety of the building users and protecting lifelines, such as water and electricity, in case of emergencies.

(2) Maintaining security

Implement appropriate security measures, including crime prevention and access controls, taking into account the way in which the building is used, the information assets, and the surrounding environment.

(3) Entrenchment of accident prevention

Carry out necessary safety measures, at the time of construction, utilization, and dismantling, for the purpose of securing the safety of building users and workers, etc.

2.3 Items related to Maximizing wellbeing for all

2.3.1 Stakeholder considerations

When designing buildings, consideration shall be given to building mutual understanding and trust through positive engagement and communication with stakeholders.

2.3.2 Promoting the utilization of diverse human resources

Consideration shall be given to the convenience and safety of the elderly and disabled, as well as the diversity of building users in terms of gender, generation, culture, language, nationality from the perspective of barrier-free/universal design.

2.3.3 Promoting health management

Consideration shall be given to both ensuring a functional space for the building's intended use and creating an environment that considers remote work, thus creating an environment that contributes to comfort, health, and intellectual productivity by taking into account the sound, thermal, light/visual, and air quality environment.

3. Guideline Operation

3.1 Setting and evaluation the design concept

When designing buildings, the design concepts are set and evaluated based on this Guideline.

3.2 Revisions to this Guideline

This Guideline shall be revised as necessary in the light of changes to the social situation or new knowledge acquired, etc.

3.3 Inquiries

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