

Activating the UN Global Goals



The 17 UN Global Goals were adopted by world leaders at the UN General Assembly in 2015 to ensure progress towards a far more sustainable world by 2030.

The UN Global Goals in the Danish context

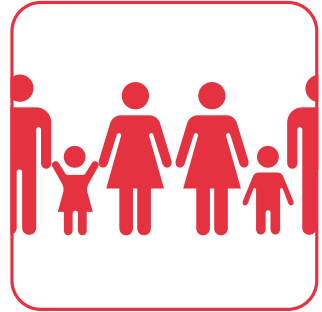
The UN Global Goals for Sustainable Development create a global vision towards a sustainable future. With 17 goals and 169 sub-goals, a common course has been set with concrete proposals for what a sustainable future entails and what changes are required. But since the goals are global goals with a common standard for how the various sub-goals are met, they require a local interpretation in a Danish context. In Denmark, it is for instance not meaningful to talk about poverty – as it is highlighted by the UN in a global perspective – as the scale for this amongst other parameters depends on a minimum income that is so low that no one in Denmark lives below it. One can still speak of poverty in a Danish context, but it requires contextualization and interpretation.

For this reason, Lendager Group prepared the document "The 17 Global Goals in Danish construction" during the spring of 2020. The purpose of the document is to provide an understanding of how the UN Global Goals can be interpreted and achieved in a Danish context, with special focus on an interpretation of the UN Global Goals related to the construction industry. The interpretation of the UN Global Goals was carried out on the basis of Lendager Group's own assessments and

experiences, supported by reports and documents from e.g. the initiative Our Goals, The Danish Government, 92 Gruppen, Green Building Council, The Builders' Association, UIA SDG Dhaka Declaration, Realdania, Statistics Denmark, and various Danish municipalities' own practices with the 17 Global Goals.

In parallel, Statistics Denmark and the 2030-panel have prepared the report "Make the Global Goals our goals – 197 Danish measuring points for a more sustainable world", which was published in September 2020. The report provides an overall interpretation of the UN Global Goals in a Danish context – a process which was launched in 2019, gathering input from leading experts, universities, interest groups and the business community. This report forms the primary basis for UN17 Village's understanding of the UN Global Goals – supplemented by the initial screening ("The 17 world goals in Danish construction"), which focuses more on how the UN Global Goals are relevant in relation to the construction industry. In the following we describe how each UN Global Goal aims to be interpreted and assessed in UN17 Village.

01 No Poverty



“No poverty” is about eradicating all forms of poverty around the world. In a Danish context, this UN Global Goal involves a more nuanced idea of the concept of poverty – including material and social deprivation, as well as economic resilience in the event of life crises. The latter points, among others, to the strength of social benefits, especially benefits aimed at groups in society who are outside the job market or who, due to physical and/or mental challenges, have difficulty finding employment.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Include socio-economic workplaces in the execution and operation of the project.
2. Establish sharing economy schemes for residents.
3. Provide apartments at affordable prices.
4. Offer activities in UN17 Village at affordable prices.

Inclusion and socio-economic jobs →

UN17 Village will strive towards broader inclusion in the execution of the project but also in the operation of UN17 Village. UN17 Village will therefore contribute to broad employment across age, gender, ethnic origin and socio-economic status, by offering varying types of internships to employ young and socially disadvantaged people.



02 Zero Hunger



“Zero hunger” is about stopping all forms of hunger and malnutrition and achieving sustainable global food production. From a Danish perspective, it is very much about ensuring access to a varied and nutritious diet – including for people in low-income groups.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Give residents access to private growing areas.
2. Serve healthy food in the Dining Hall.
3. Organize workshops on healthy eating.

Cultivation areas →

Having the opportunity to grow your own vegetables has positive effects on many levels. It contributes to exercise and fresh air, supports socializing, is economically advantageous, and of course the concept also provides the opportunity to grow your own healthy and fresh crops. In addition, it is climate-friendly, as it helps to reduce CO2 emissions from the transport of raw materials. UN17 Village therefore focuses on establishing cultivation areas available to the residents.



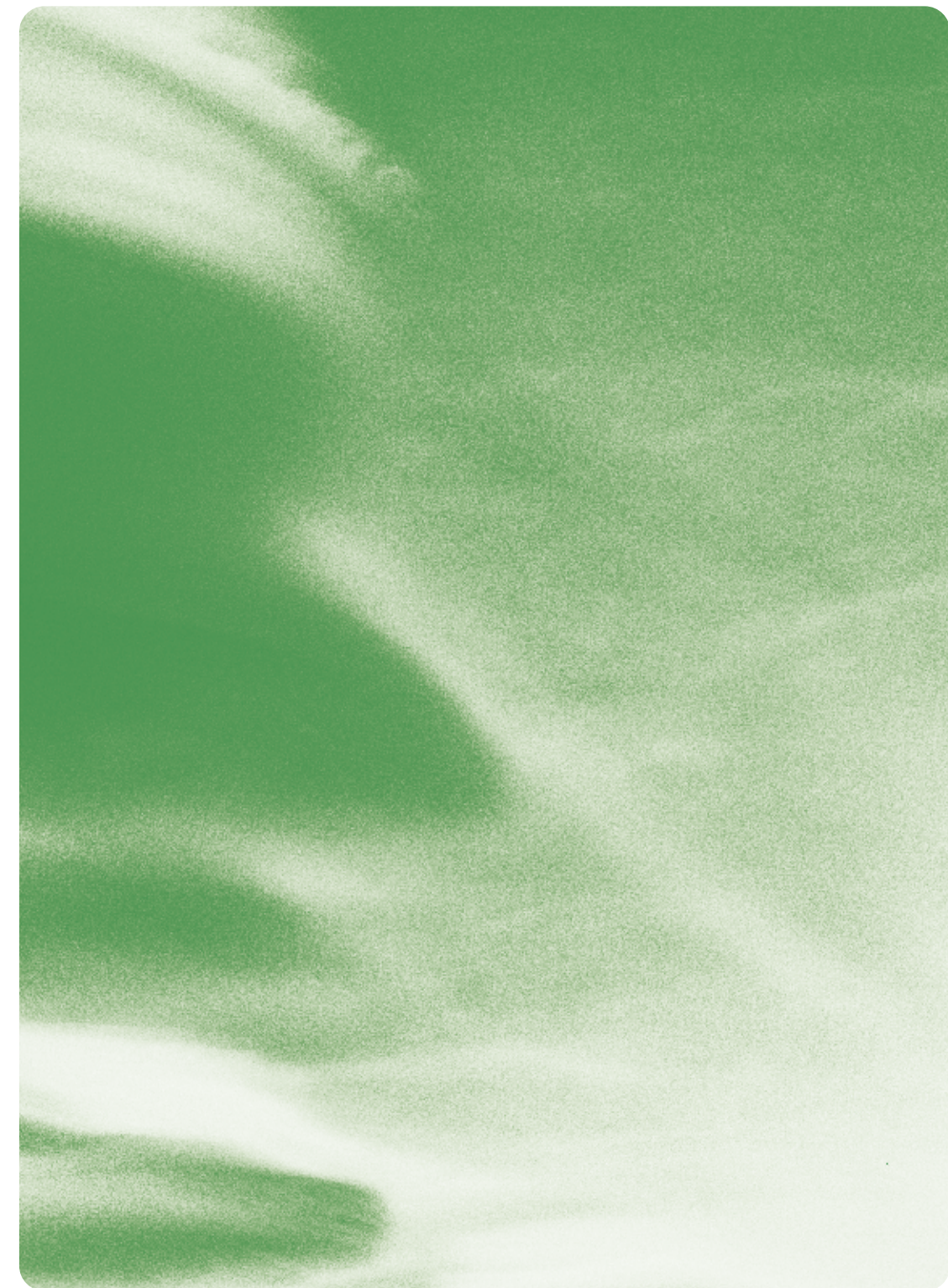
03 Good Health and Well-Being



“Good health and well-being” focuses on the issue of global health and well-being as a whole, and is about ensuring a healthy life for all and promoting well-being for all age groups. In Denmark, this Global Goal is also about physical and mental health. Areas of focus have been the prevention and treatment of substance and alcohol abuse, smoking and a fundamentally unhealthy lifestyle. The limitation of diseases has also been addressed.

UN17 Village is exploring the potential offered by this UN Global Goal by looking, among other things, at opportunities to:

1. Ensure a good indoor climate in its homes.
2. Bring nature into the project and use natural materials in the development.
3. Provide access to play and exercise.
4. Reduce the risk of infection through choice of design.
5. Create good conditions for cyclists.
6. Give residents access to private growing areas.
7. Make UN17 Village a smoke-free area.
8. Ensure social meeting areas both outdoors and indoors
9. Establish special co-living apartments for seniors.
10. Focus in particular on avoiding using substances that are harmful to the environment and people's health in construction.



The air we breathe ↑

Unfortunately, the air in our homes is often far more polluted than the air outside. This is partly due to particles from cooking, stoves, vacuuming, candles and cleaning products as well as degassing from electronics, toys and materials. However, outdoor air can contain particles from traffic, pollen and fungal spores, which can cause allergic reactions in many people. In UN17 Village focus is placed on implementing measures that increase the air quality in the homes. Among other measures it involves relatively high air changes via mechanically balanced ventilation, pollen filters and high-efficiency hoods. There is also an extra focus on avoiding harmful substances in the choice of materials and electrical components, including VOCs such as formaldehyde and other carcinogenic and endocrine disrupting chemicals, but also heavy metals such as CCA (Chromated Copper Arsenate), lead and mercury.

04 Quality Education



“Quality education” is about ensuring equal access to quality education and promoting everyone’s opportunities for lifelong learning. Since the Danish education system is known internationally as one of the best in the world, the debate on Global Goal 4 from the Danish perspective has instead concentrated on the motivation to learn, and on ensuring that the sustainability agenda is highlighted as central areas of focus in teaching.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

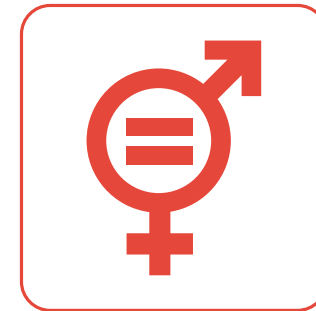
1. Use the common spaces for learning about and sharing knowledge on sustainability, including by selecting materials in a sustainable manner, putting up information signs and organizing events.
2. Use the UN17 APP for learning and knowledge-sharing around sustainability.
3. Make sustainability visible in the design of the project (e.g. through the visible use of recycled materials).
4. Arrange activities (e.g. for children and young people) with a focus on learning and knowledge-sharing around sustainability.

Learning and knowledge-sharing →

The common facilities in UN17 Village will play an important role in learning and sharing knowledge about sustainability – and measures will be implemented that contribute to increased visibility of sustainability. This will be done both through design initiatives and materials selection, organizing activities with a focus on promoting knowledge-sharing about sustainability and through information signs that make the building’s sustainability initiatives visible.



05 Gender Equality



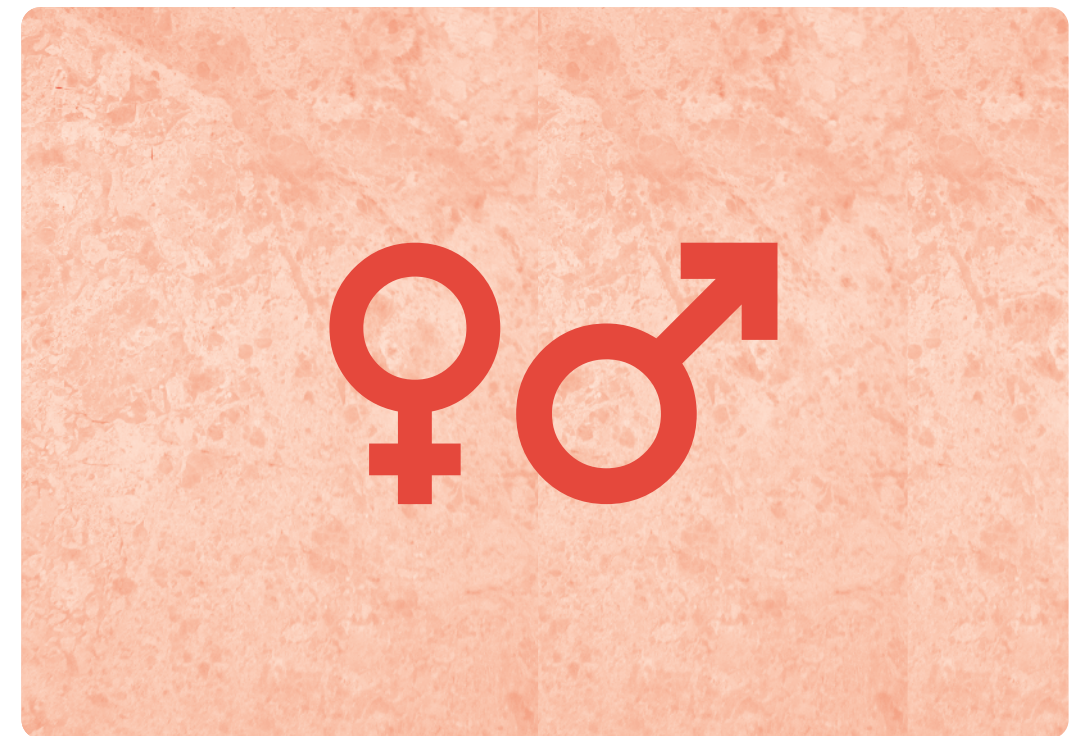
“Gender equality” is about equality among genders. While Denmark does have formal equality between the genders in relation to key social factors, there is still some distance between formal rights and real equality. In Denmark, there have also been debates around ensuring equal rights and opportunities for minority groups, including people with disabilities and women of other ethnic backgrounds.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Focus on the gender balance and the inclusion of people from other ethnic backgrounds in employment.

Universal design →

UN17 Village will meet various parameters within universal design that ensure equality and inclusion of people with physical and mental disabilities. This includes, among other things, physical layout and flexibility, access conditions and a strategy for wayfinding and signage that ensures broad inclusion across different residents and visitors.



06 Clean Water and Sanitation



“Clean water and sanitation” is about ensuring that everyone has access to clean water and sanitation, and that this is managed sustainably. In a Danish context, the debate has focused in particular on maintaining and securing our current water supply, streamlining water consumption, and complying with the thresholds for pesticides and other harmful substances in groundwater, as well as other issues.

UN17 Village is exploring the potential offered by this UN Global Goal by looking, among other things, at opportunities to:

1. Collect, treat and reuse rainwater for irrigation in growing areas and green areas on roofs and in courtyards instead of using drinking water.
2. Implement water-saving mixer taps.
3. Monitor water consumption, e.g. via the UN17 APP, to encourage residents to use less water.

Rainwater harvesting and recycling →

In UN17 Village, roof surfaces and courtyard areas are used to collect rainwater, which can then be reused for drip irrigation of the biotopes in the courtyards and on roofs. Due to the challenging growth conditions on roof surfaces it is necessary to establish a permanent irrigation solution in the form of drip irrigation.

Drip irrigation ensures that no more water is used than necessary to maintain favorable growth conditions. For watering the greenhouse on the roof and utility gardens in terrain, water is collected from roof surfaces, which is stored in rainwater barrels and tanks.



07 Affordable and Clean Energy



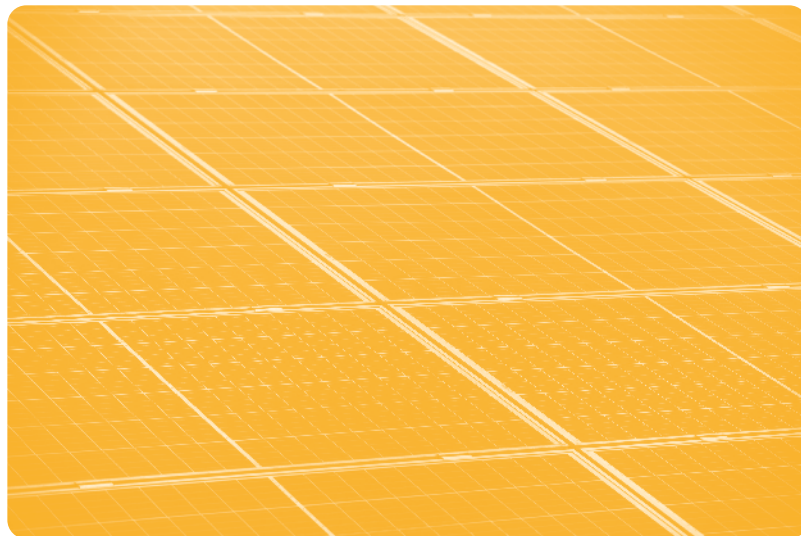
“Affordable and clean energy” is about all people having access to reliable, sustainable and modern energy at an affordable price. In Denmark, debates have focused on issues such as increasing the share of renewable energy on the Danish energy market as part of the ambition to fully resolve Denmark’s reliance on fossil fuels by 2050.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Use district heating from HOFOR which in recent years has converted their heat production to a more climate-friendly production based on biomass.
2. Erect solar cells to offer residents self-generated energy.
3. Select an energy provider with renewable energy sources for construction and operation of the building, e.g. wind farms that provide electricity from 2,500 Danish wind turbines.

Sustainable energy and solar cells →

In order to offer residents self-produced, sustainable energy, solar cells are set up on selected roof surfaces. The solar cells are placed east and west with a slope of 10-15 degrees. This location strategy optimizes energy production in relation to the available roof area, just as it extends energy production to morning and afternoon hours, when the residents are more at home and can consume the energy produced. Solar cell production is settled at the main meter level and then distributed to the residents, who all have a secondary meter installed.



08 Decent Work and Economic Growth



“Decent work and economic growth” is about promoting long-lasting, inclusive and sustainable economic growth, full and productive employment, and decent work for all. In terms of sustainable economic growth in Denmark, the debate has focused heavily on climate, sorting of waste and recycling resources. In addition, Global Goal 8 is very much about the working environment and inclusion on the job market where good working conditions (less stress and fewer accidents at work) and equal access to work for different groups should be ensured.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Include people with disabilities in the construction and operation of UN17 Village.
2. Offer varying types of internships and apprenticeships, e.g. to employ young and socially disadvantaged people.
3. Establish sharing schemes that can help reduce residents’ consumption.



← Sharing centre

The Sharing Center is UN17 Village’s sharing economy community and workshop. We all have a lot of things that we use so little that we do not need to have them all the time. In the Sharing Center, you can donate your own things or borrow items from your neighbors. A sustainable idea that offers social connections. At the same time, the Sharing Center is also the shared workshop where residents can repair bicycles or furniture, or work on their own or group DIY projects. On the exchange shelves, residents can hand in or pick up used but well-functioning furniture, materials, toys, etc.

09 Industry, Innovation and Infrastructure



“Industry, innovation and infrastructure” is about building a robust infrastructure, promoting inclusive and sustainable industrialization, and supporting innovation. In Denmark, the green transition has been a common theme in the debate surrounding Global Goal 9, with a focus on maintaining a competitive business sector while increasing sustainability, e.g. in energy and resource efficiency, greenhouse gas emissions and innovation.

UN17 Village is exploring the potential offered by this UN Global Goal by looking, among other things, at opportunities to:

1. Establish sharing schemes that can contribute to a more efficient use of resources.
2. Implement different materials and construction principles that contribute to a more resource-efficient construction project with lower CO2 emissions.
3. Recycle and reduce waste from the construction site.
4. Recycle and co-produce waste from the construction site.
5. Invest in innovation in terms of construction.

Resource-efficient facade cladding →

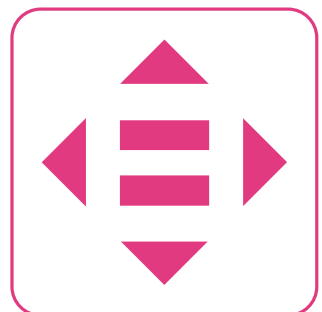
The outer walls of buildings account for a large share of the building's total CO2 emissions. Of this, the facade construction and windows make up the largest part, but the facade cladding and the suspension system also play an important role. By incorporating materials with a low CO2 footprint and minimizing the use of resources, we make it possible to reduce the construction's total CO2 emissions. In addition, the facades provide a special opportunity to make the sustainability of the construction visible through the choice of materials. The facades are the building's first large visible surfaces and help to give the architecture and the urban spaces character and identity.

UN17 Village's facades will contribute to the story of sustainable construction, by making sustainability visible through design, sustainable materials selection and implementation of recycled materials to the greatest possible extent. UN17 Village has therefore initiated special innovation tracks that are intended to uncover the possibilities of implementing recycled materials in the facades of the buildings. LCA compositions of various facade claddings and suspension systems based on collected EPDs from concrete products have also been prepared.



10

Reduced Inequalities



"Reduced inequalities" is about reducing inequality between people and between countries. Therefore, the issues discussed in connection with Global Goal 10 have been inequality between rural and urban areas, women and men, negative social heritage, and discrimination against people with disabilities, ethnic minorities and LGBTI+ people.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Offer different types of internships and apprenticeships, e.g. to employ socially disadvantaged people.



Diversity in employment ↑

The construction industry has traditionally been dominated by middle-aged men and has a reputation for being conservative. UN17 Village contractor CG Jensen believes that hiring broadly – across gender, age and ethnicity – can create serious change. CG Jensen has a formal policy of training and employing more women, seniors and people with different ethnic backgrounds within their workforce. Today, every fourth construction manager in the company is female and their workforce consists of a diverse mix of nationalities and ethnic backgrounds.

11

Sustainable Cities and Communities



“Sustainable cities and communities” is about making cities, communities and residential developments inclusive, safe, resilient and sustainable. Denmark can strive for more inclusive, greener and more sustainable cities, buildings and communities. It is, for example, also about ensuring resilience against the negative influences of climate change and increased urban population growth.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Implement the DGNB, DGNB Heart and WELL sustainability certifications.
2. Establish inclusive green public spaces with a high degree of security.
3. Implement measures that make it easy and attractive to choose the bicycle instead of the car, in order to promote a sustainable infrastructure with a focus on human well-being.
4. Investigate (including through initial LCA analyses) and implement various different materials and construction principles that will contribute to more resource-efficient construction with lower CO2 emissions (including choice of building system, insulation, concrete, and interior and exterior surfaces).
5. Recycle and co-produce waste from the construction site.
6. Collect, divert and reuse rainwater.
7. Set up charging stations for electric vehicles.

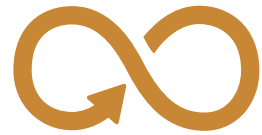


A mixed building with space for everyone ↑

The construction industry has a huge impact on our surrounding society. Social responsibility is about ensuring sustainable solutions, inclusion and proper social conditions – both in the design process, the execution and operation of construction projects. UN17 Village will offer different types of apartments at affordable prices, aimed at promoting a mixed composition of residents in terms of age, gender, family size and employment. We are therefore working with different types of apartments in varying sizes (ranging from sizes of 1 to 5 rooms), including family homes, Noli homes, senior housing community apartments, as well as special health apartments. The ambition for a mixed housing development also spreads to urban spaces and communal facilities where varied activities with room for different types of people with different incomes will be offered.

12

Responsible Consumption & Production



“Responsible consumption and production” is about spreading sustainable consumption and production models. The debate surrounding Global Goal 12 in a Danish context is about how material management should be viewed to a greater extent from a circular economy perspective. The construction industry is a serious contender in this debate as the construction industry accounts for 30% of the total amount of waste generated in Denmark.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Establish sharing schemes for residents that can contribute to a more efficient use of resources.
2. Implement different materials and construction principles that contribute to a more resource-efficient construction project with lower CO2 emissions.
3. Recycle and co-produce waste from the construction site.



Sustainable sharing ↑

UN17 Village will contribute to promoting a sharing economy and focuses on implementing measures that make it easier for residents to share resources across UN17 Village for example by establishing shared guest housing, a digital platform for sharing (e.g. via a UN17 APP), and an "items bank" where you can borrow or rent equipment from fellow residents. In addition, the possibility of establishing an electric car sharing scheme is explored in order to contribute to support the sustainable transport habits of the residents.

13 Climate Action



“Climate action” is about acting quickly to combat climate change and its consequences. In a Danish context, the debate surrounding Global Goal 13 focuses on how to integrate climate action into policies and the planning of cities, as well as how we can contribute to lowering greenhouse gas emissions.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Implement different materials and construction principles that contribute to a more resource-efficient construction project with lower CO2 emissions.
2. Collect, divert and reuse rainwater.
3. Contribute to learning and knowledge-sharing on sustainability through common facilities, events and stakeholder meetings for residents and visitors.

Sustainable building system →

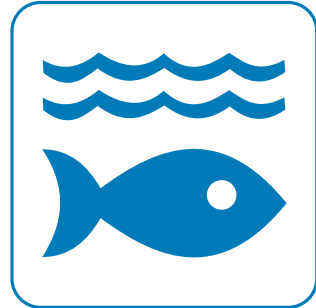
Today, construction accounts for 40% of global CO2 emissions annually. Figures from DK-GBC show that when it comes to new constructions in Denmark, it is the materials that make up the majority of the climate footprint in the building's lifetime (up to 80%). This is primarily due to the fact that we in Denmark have long had a focus on reducing the buildings' operating energy through increasing requirements in the building regulations, the voluntary energy classes and due to the Danish energy supply becoming greener. Therefore, the embedded CO2 of the building materials makes up a larger part of the total amount. In order to reduce the buildings' overall climate footprint, it is therefore important to initiate measures that promote sustainable materials, resource efficiency and circular economy measures.

The building system is a good place to start. According to Concito, load-bearing elements and foundations in a standard construction of concrete are responsible for approximately 70% of the building's total climate impact (GWP). 40% is ascribed to foundations and decks, with load-bearing elements accounting for 30%. Roofs and facades are not included. This indicates that the building system plays a major role in the overall climate footprint of the building. Hence, measures that deal with reducing the climate footprint of the building system could make a big difference.



14

Life Below Water



“Life below water” is about preserving and ensuring the sustainable use of the world’s oceans and its resources. From a Danish perspective, Global Goal 14 is largely about the problems of overfishing and increased pollution of the oceans which are affected by, e.g., agriculture, lifestyle and waste management, all of which can be sources of pollution. Microplastics are a particular challenge in our local environment.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Implement products that recycle plastic collected from the oceans or abandoned fishing gear.
2. Avoid using building materials with environmentally harmful substances (choosing products that are Nordic Ecolabelled, EU blue flower, Blaue Engel or similar), to minimize pollution of soil, air, groundwater and surface water, as well as flora and fauna.



Upcycled fishnet rugs ↑

Plastic pollution is a major problem for our oceans today. If you want to protect and restore our oceans, removing amounts of plastic is a great goal. Fishing nets are among the biggest sources of plastic waste in many of our oceans. Apart from the amount of plastic in our oceans, those nets also continue to catch and kill fish. UN17 Village will contribute to preserving life below water by using products made from recycled plastic collected from the ocean.

15 Life on Land



“Life on land” is about protecting, restoring and supporting the sustainable use of ecosystems on land, promoting sustainable forestry, combating desertification, and stopping soil erosion and loss of biodiversity. The debate surrounding Global Goal 15 in a Danish context concentrates to a large extent on ensuring a sustainable and environmentally-friendly improvement to and utilization of the country’s land and resources to protect the future biodiversity of the country.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Design varied green courtyards, roofs and facades with local plant species and biotopes from Kalvebod Fælled which will help to increase biodiversity.
2. Manage green areas with a focus on biodiversity.
3. Contribute to the purification of rainwater and basins locally.



← Avoiding environmentally harmful substances

Building materials that can contribute negatively to pollution of soil, air, and ground and surface water, as well as flora and fauna (both locally and regionally) should be avoided. Products should as far as possible have one of the following certificates: the Nordic Ecolabel, EU blue flower, Blaue Engel or the equivalent. The DGNB certification requires that a minimum of 90% of all wood and wood materials used in the building itself and the construction process are derived from responsibly utilized forestry, as well as that all used natural stone in building and in terrain is from documented responsible origins. The documentation for sustainable wood is the FSC (Forest Stewardship Council) or PEFC (Program for Endorsement of Forest Certification) certifications of wood and wood materials.

16 Peace, Justice and Strong Institutions



“Peace, justice and strong institutions” is about creating peaceful and inclusive communities that are supported by institutions that provide individuals with legal certainty. The debate surrounding Global Goal 16 in a Danish context is about reducing physical/mental/sexual violence, gang crime, money laundering and tax evasion, corruption and bribery, and discrimination in laws and policies. There is also a focus on ensuring transparency in decision-making processes and civic involvement.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Provide spaces for common facilities, such as the Common Room, where institutions and associations can organize democratic debates.

A space for democratic debates →

The Common House will be an extension of the residents’ own living rooms, with a focus on community and togetherness. It is designed so that it can be transformed and adapted to suit various activities and the needs of different residents. In the Common House, residents can meet during the day or in the evening for activities for children, young people and seniors alike. There is space here for a creative workshop, exercise activities for adults and children and the possibility of organizing larger events. It is also in the Common House that UN17 Village’s workshops and lectures are held on everything from the body and health to biodiversity and vertical vegetable cultivation.



17

Partnerships for the Goals



“Partnerships for the goals” is about strengthening the global partnerships for sustainable development and about sharing knowledge and technologies across all borders. In Denmark, the debate points towards increasing Denmark’s support for sustainable development, especially in developing countries, as well as how we, here in Denmark, should work on implementing Global Goal 17, i.e. securing partnerships across sectors and across stakeholders in Danish society.

UN17 Village explores the potential of this UN Global Goal by looking at opportunities to:

1. Ensure the involvement of experts and local stakeholders in the process.
2. Contribute to learning and knowledge-sharing around sustainability through common facilities, events and stakeholder meetings.

Diverse project team and stakeholder involvement →

The project team for UN17 Village consists of a diverse and interdisciplinary project team with mixed experience and knowledge across the construction industry. It helps to ensure that different kinds of knowledge come into play and experiences are exchanged. In relation to the sustainability strategy, the coordination between the Global World Goals, DGNB, DGNB-heart and WELL has in itself contributed to different disciplines interacting

early on how sustainability measures are anchored in the architecture. Throughout the project, there is a focus on involving various experts. They can be professional experts, but also passionate and local actors. They will contribute to an increased level of knowledge throughout the process and at the same time create a greater sense of ownership when the project is completed.

