BRUNNSHÖG



A future to believe in

Everyone is talking about a smarter, more sustainable future. In Brunnshög, this future is being realised. And it is being created around the people who will live here, focusing on their future needs.

Brunnshög will make Lund even better. The city is already one of the world's most prominent university cities. Innovations like the mobile phone, the artificial kidney and the bluetooth technology originated here, and Lund has an undisputed reputation as a city of knowledge and innovation.

The realisation of Brunnshög's vision creates an inspirational and global living environment, where up to 40,000 people live and work. It includes top-class facilities and laboratories along with a dense and mixed urban environment with varied housing and lush parks, shops and schools, workplaces and services. The best place to be – and the most stimulating and interesting.

Brunnshög's entire DNA is permeated by sustainability, with a strong sense of responsibility for coming generations. Meet the future in Brunnshög. You will believe in it because you are living it.

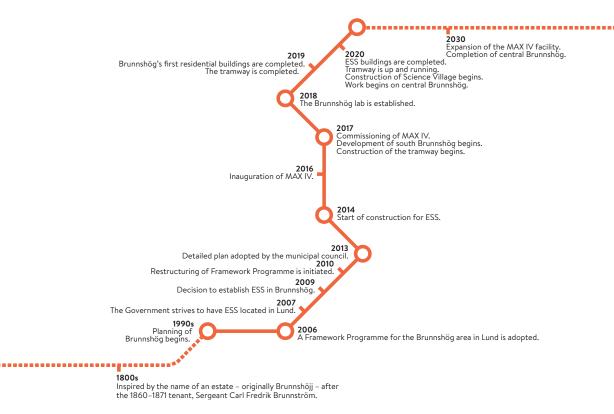
The strategy for Brunnshög has three components: the research facilities and the surrounding environments; an exceptional city district with high sustaina-

bility ambitions; and a destination that attracts both regional and international visitors. This gives Brunnshög three strong cornerstones: knowledge intensity, sustainable urban development and regional attractiveness.

A world-leading living, innovation and research environment. These words sum up the vision for Brunnshög.

Three strategies are being used to attain it.

- **1.** Developing the world's most prominent research and innovation environment using MAX IV and ESS as drivers.
- 2. Making Brunnshög into a knowledge-intensive and global living environment by constantly exploring new solutions for sustainable social development.
- **3.** Creating an international destination for science, culture and recreation, which inspires discoveries and new knowledge.





Real sustainability

Brunnshög has all the conditions to create a better future from the start: a global and knowledge-intensive environment where new solutions for a sustainable society are being explored.

The city of the future will make completely different demands on sustainability. Brunnshög has high ambitions: leading the way towards a more sustainable world. The city district is to set a European example, taking local responsibility for the global climate, with an inspirational living environment where people and ideas meet, and which is permeated by quality of life, joy and consideration for future generations.

Heat-generating research

The research facilities ESS and MAX IV will generate large amounts of excess heat. In order to benefit from this, Kraftringen is constructing the world's largest low-temperature district heating network. The energy, which would otherwise go to waste, is innovatively and effectively reused – fully in line with Brunnshög's vision for sustainable urban development.

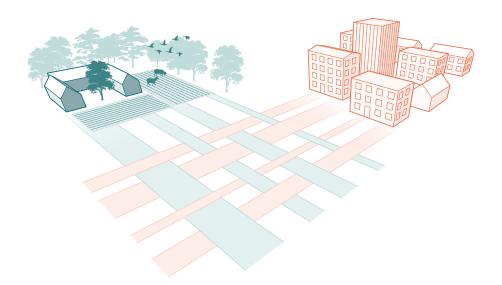
The future is rail-bound

The tramline between Lund C and ESS is an investment in the public transport of the future, with Lund being the first of many new Swedish tramway cities. The benefits are clear – tramways can transport many people at once, and they are green and emission-free. The tramway is part of the objective to have a maximum of one third of all traffic to and from Brunnshög using a car, and at least two thirds travelling by foot, bicycle or public transport.

Pneumatic infrastructure

Since Brunnshög is being densely built, surface-efficient waste management is a must. An advanced, solar-powered pneumatic refuse collection system is therefore being constructed in the district. The chutes will be adapted for quick, hygienic and simple waste management. In this way, the refuse lorries do not have to enter the district – the refuse is instead compressed and sent via the pipeline directly to the waste management centre.





An urban, rural district

Interweaving the urban with the rural to create a unique and varied living environment. This is a fundamental urban development principle in Brunnshög.

Brunnshög is being constructed in the borderland between the city and the country, where the fertile fields meet the built-up urban environment. The neighbourhood therefore offers the best of both worlds – the lifestyle and services of the city combined with close access to nature in the form of developed parks and the southern plains.

The development in the eastern outskirts of Brunnshög will face out towards the surrounding agricultural landscape. But the connection to the landscape must also be evident inside the district, where stretches of the plains run through the streets. The connection is also reinforced by Brunnshög's focus on food in the city – parks with edible plants, urban farming in the yards, on rooftops and in grocery stores are natural features of the urban environment. And some of the research conducted in the area will relate to the food of the future. In Brunnshög, contact with the fertile soil will always be just around the corner.



Surrounded by knowledge

The research facilities. An interesting urban context. And proximity to one of the biggest universities in the Nordic region. Brunnshög has excellent conditions to become a city district revolving around knowledge and innovation.

Brunnshög is built around research, but not only in the physical sense. Many new ideas have been born in the meeting of disciplines when people with different experiences cross paths. The urban environment in Brunnshög is to contribute to synergies between facilities, researchers and society – in Brunnshög, a spectrum of sites are created to support and enable new types of connections between researchers, entrepreneurs and businesses. The research institutions are also woven into this urban context of rich experiences and are vitalised by the everyday life of the city. It is at this point – in the meeting between people and ideas – that innovation, new ideas and companies emerge, and the creation of these facilities is of the greatest gain to the region.

Around 8,000 researchers from around the world are expected to visit the district each year, making it a new centre for material research. This naturally gives Brunnshög an international and multilingual flair.

A new destination in north-eastern Lund

The city district aims to be a destination for science, culture and recreation. This inspires new discoveries and new knowledge.

Brunnshög will be a natural destination for the whole region. The high-class environment of the district, its architecture and its forward-thinking urban development attract new and returning visitors. A large selection of restaurants, culture and special meeting places also prompts many people to take the tram up to Brunnshög to discover new sides of Lund.

The first Science Centre in southern Sweden

A visitor's centre in the form of a Science Centre is being planned. This centre is to be a window to the otherwise closed research facilities and provide an opportunity for society and research to exchange experiences and knowledge. The technology and research from MAX IV and ESS will be presented here, but the centre will also show several other exhibitions. The ambition is to display research and innovations from around the world, with a special focus on Lund and Skåne.

A park you could eat

Kunskapsparken (the knowledge park), which is the size of 21 football pitches, will bring together the urban environment and the open southern plains, where visitors can see the characteristic elements of the cultural landscape alongside innovative and modern additions. In the park, which is one of the greatest investments ever made in Lund, there are exhibitions, plots of edible plants and education activities with room for exploration and interaction.

The different environments have a variety of footpaths for visitors to easily move around and stimulate their senses and feel the joy of movement. At the same time, the varied terrain, including wetlands and watercourses, provides a space for many different forms of vegetation and biodiversity – while at the same time forming natural wind protection.



Science Centre will become a regional destination.



Kunskapsparken - Lund's new major park.

A district to thrive in

We shape the city, and the city shapes us. In the plans for Brunnshög, people are the focus, starting with the importance of the public environment for how we relate to one another and our surroundings, how we are feeling, and how much time we spend outdoors.

The public spaces are to promote activity, spending time together and allow people to see one another. The city district is being developed over a long period of time, with several sub-districts, but the common spatial goals bring them all together.

Brunnshög is built on a human scale

The main street grid is dimensioned to fit two basic neighbourhoods, approx. 60×60 m in size, with a green-blue streak in between. This format provides excellent conditions for different programmes and typologies and allows for future changes to the plan.

It is modelled on Lund's varied cityscape, where a basic building height of 4–5 floors creates the conditions for a living neighbourhood – on a human scale, close to people. The housing is to be mixed, with different forms of tenure, which enables more people to live in Brunnshög.

A neighbourhood of contrasts

Brunnshög is an area that is made unique by its great contrasts. This is where the city meets the countryside, technological development meets human warmth, and permanent residents meet international guests.

Places to meet

What would life be without meeting other people? Meetings increase understanding, broaden perspectives and provide inspiration. At the same time, loneliness is a growing social issue. For this reason, Brunnshög is being planned for people to see each other. Places and activities are created with a focus on encouraging meetings and social interaction.

COMMON SPATIAL OBJECTIVES

- Clearly linking Brunnshög to surrounding urban and green areas.
- Creating a dense and green urban environment with good locations for development, businesses and services.
- Creating a unified urban structure where locations, paths and streets are interwoven with the green and blue structures.
- Having park areas and green structures interlinked by green passages.



Classic city layout.



Functionalist planning.



Brunnshög's planning - city, green and blue



Natasha is living in Sweden's first student housing with the Nordic Swan Ecolabel

Student Natasha Majbrink looks out over the tramline every day. She is one of the people who have moved into Brunnshög's first finished building – the ecolabelled Parasollet owned by Svenska Studenthus.

Natasha Majbrink is in the first year of the Master's Programme in Engineering, Civil Engineering at LTH and loves living in the middle of a construction site. What she learns about in school, she sees outside her window.

"The first time I was coming here, it was difficult to find. I took a long detour on my bicycle and ended up on the wrong side of the motorway before I finally found a little tunnel underneath the road out in the countryside. Now that I know the way, LTH is just around the corner," laughs Natasha.

What's the best part about living in Brunnshög?

"The best part is seeing how everything is changing. I live right next to a stop on the future tramline, and I cycle along the track to school every day. I see how the city is coming to life, how buildings are coming to life. Right now, it's especially relevant to me, since I am taking a course in building construction," says Natasha.



View of the future tramline stop Solbjer from Natasha's balcony.

Living next to the tramline stop is perfect, according to Natasha. It makes it easy for her to go visit her parents as she can get on the tram right outside her house to go to Lund C, where she can take a train to Värnamo.

"I feel really good about living in an ecolabelled building and not breathing in toxins from all kinds of material. Young people today are especially attentive to the contents of paints and sealants. We have to live more sustainably if we are to have an earth left to live on. I am truly grateful to be living where I am, and I feel happy every day cycling home."

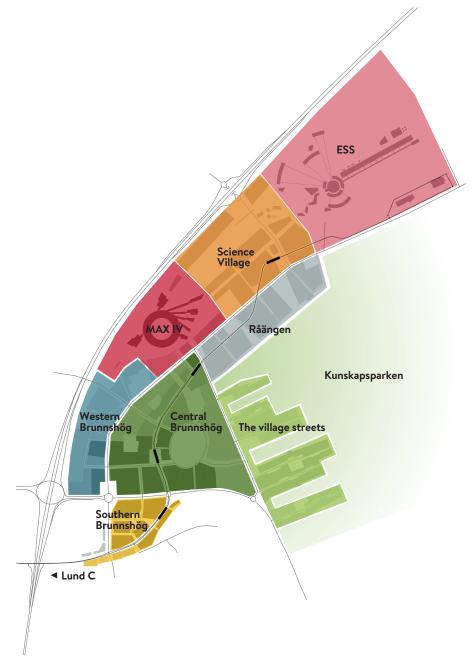


Prepared for the future

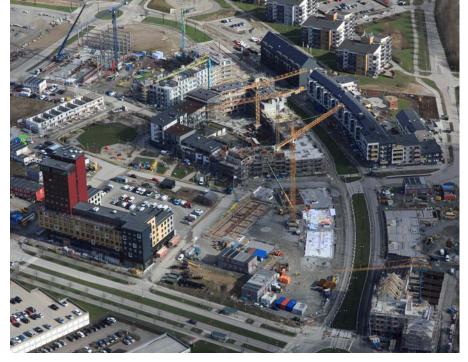
Construction began on southern Brunnshög in 2015. It is impossible to foresee the future and predict when the last stage will be finished. But what we can know for sure is that the urban development ideals will change along the way. Brunnshög's flexible method counts on this.

Brunnshög is to remain at the forefront of sustainability and innovation. This requires a city district in constant development and change to keep up with the times. At the same time, Brunnshög will never be finished – the district is being shaped gradually and will continue to develop even when construction is completed. For this reason, Brunnshög's mix of urban and green spaces is flexible and adaptable to future needs. Locations that are left undeveloped for some time can for example leave room for temporary environments where potential future uses can be tested. The idea is to establish new movements and uses for coming stages, and that this experience will contribute to a more experimental and dynamic urban development.

Planning ahead, you can then continue building on prior experience to avoid the pitfalls and further raise the level of ambition and, most importantly, inspire innovation and change.



Brunnshög is currently divided into various sub-districts. A selection of these are described in the following pages.



Southern Brunnshög is starting to take shape.

Southern Brunnshög

People have started moving into southern Brunnshög – the first stage of development and the entrance to the entire district. The main street of the area – Brunnshögsgatan – will be a clearly defined urban street with buildings on both sides, where the tram stops provide locations for businesses and services. The dense urban environment provides protection from the wind and excellent views. The buildings on the south side of the area will be low, which will allow the south-facing slopes of Brunnshög to be sunny.

The urban environment will be lively, characterised by sustainable architecture, simple materials and vegetation. The varied scale and expression of the architecture makes it easier to get around and promotes cycling and walking. The height of the buildings varies between two and six floors, while the 14 floors of the hotel building makes it stand out. Rental, tenant-owned and fully owned housing options are being planned, along with a new preschool, restaurants and shops, offices, a park and two parking structures.



The commercial area along with housing by the square in central Brunnshög.

Central Brunnshög

Just north of southern Brunnshög is central Brunnshög – the hub and heart of the city district. It contains the main square with top locations for businesses and services, as well as the large oval-shaped park called Nobelparken. Different environments, characteristics and building types are used to best utilise the conditions provided in central Brunnshög. Prestigious locations for offices, retail outlets and cafés, compact blocks with a wide range of apartments and green areas with terrace houses share this area, creating an attractive mix. This is also where the large market square will be established, with a grocery store, pharmacy, Systembolaget, and other useful services for the local community. Just next to the square, a 36-floor residential building is being planned, with mixed forms of tenure. At the top of the building, which will be a Brunnshög landmark, there will be a roof terrace open to the public. Sustainability, innovation and quality characterise this urban environment, and central Brunnshög will be a place to test and showcase new methods.



The research facility MAX IV is operational.

MAX IV & ESS

MAX IV and the European Spallation Source (ESS) are two of the most advanced high-tech research facilities in the world. This is Europe's new centre for interdisciplinary material research.

MAX IV, which was inaugurated in June 2016, is the world's most powerful synchrotron radiation facility. Its accelerators produce such powerful and high-quality x-rays that researchers can see what has previously been invisible. Once completed, the laboratory will be able to receive more than 2,000 researchers within material science, structural biology, chemistry and nanotechnology. ESS is a research facility based on the world's most powerful neutron source. Since 2014, it is being built with the help of researchers and engineers from all over the world to form a centre for studies of the innermost building blocks and functions of matter. The facility, which could be likened to a giant microscope, receives funding from 15 countries and is expected to host 2,000–3,000 researchers annually.



The centre of Science Village and the first planned building - SPACE.

Science Village

Science Village is a dynamic and creative location for the public and research to interact. It is home to ESS and MAX IV, and one of the most important functions of the area is to support these two research facilities. In between them, in the centre of Science Village, there will be offices and short-term housing for visiting researchers. But Science Village is not only a place for research. It is also the planned site for Sweden's largest Science Centre, a large concert hall, as well as work spaces for the business and academic sectors.

History meets the future in Science Village. A few metres from the local tramline stop is Möllegården, which with its 17th-century mill and spacious garden provides a quiet refuge for the thousands of people who will be working in the area. The Science Village also has a botanical garden – Vindarnas park – where you can enjoy 30,000 plants from all corners of the world. The park cuts through Science Village to create a green stretch from MAX IV to Kunskapsparken.



The place where Råängen will grow.

Råängen

Råängen has a panoramic view across Kunskapsparken and is situated right next to the research facilities and Science Village. An innovative and ambitious construction project is underway here with the development of an urban environment that preserves the area's inherent qualities and prime location for public transport.

The area, which is owned by Lund Cathedral, is currently used as a platform for discussions on what to do with the land. The goal is to use Råängen's art and architecture programme to change the view of urban planning. The intention is to promote commitment and invite people to open discussions before any work begins. The programme will influence and characterise the long-term development of church lands and result in a residential area that creates and enables new ways of living, learning and working.



Village street with mixed housing and various businesses.

The village streets

At the eastern edge of Brunnshög, you can find "the village streets" – six narrow streets leading straight out into the agricultural landscape and Kunskapsparken. Along these streets, which are inspired by the classic streets of villages in Skåne, there will be terrace houses, semi-detached houses and a few detached houses of varying character and with two to three floors. The houses will lie close together, which along with the rows of trees will provide protection from the wind. The idea with these streets is to offer a more rural housing alternative in close vicinity to the more urban Brunnshög. Here, you will have access to agricultural land, room for animals and small businesses – without needing a car. Public services – such as schools, preschools and shops – are within comfortable cycling distance. The development is given a rural character thanks to smaller houses with large open areas and agricultural land just around the corner. This allows Lund to offer housing and business opportunities close to the urban area combined with all the qualities of the countryside.



Closer to the tram than the car

Ulf Malmqvist is standing on the edge of a pit, looking down at what will soon be his new home.

The summer sun is shining down on the new city district of Brunnshög, where massive excavations share space with scaffolding and finished houses where people have already moved in. Ulf himself will be able to move in during the late summer of 2021. He will be living in three rooms on the second floor of Ikano Bostad's Brf Maxa – around 50 metres from the Solbjer tramline stop.

"I am already living near Brunnshög today, and I enjoy living higher up in these parts of Lund. A colleague of mine bought an apartment in Västra Hamnen in Malmö, and I started thinking about getting something new too. That's when I found Ikano Bostad's Brf Maxa, and felt that it would suit me. There were two different layouts with three rooms to choose from, and the whole area has a unique and exiting character," says Ulf.

The tramline was one of the reasons why he chose Brunnshög.



Today a pit - in a few years a home.

"I think I will be comfortable living here, and I look forward to living in a quiet apartment in a modern building. The apartment has a large balcony in the southwest. The tramline will also be quiet, and as the trams run regularly, I don't have to adapt my schedule – I simply walk down to the stop. I will be closer to the tramline than the car park. The area I'm living in now is more sleepy. In Brunnshög, there will be restaurants and shops, which makes for a livelier neighbourhood. It will be like a small village and you won't always have to go into town."

Today, Brunnshög is on the outskirts of Lund, but Ulf thinks that more people will discover the district when restaurants and cafés have opened both in the residential area and in Science Village, which will be located in-between the research facilities MAX IV and ESS. The 21-hectare park Kunskapsparken, which will be constructed in Brunnshög, will attract Lund residents with outdoor activities and exercise opportunities.

"I feel like Brunnshög will be a stable place to live with the two research facilities nearby. You can stay here for a long time. I'm excited to see how Brunnshög will grow."

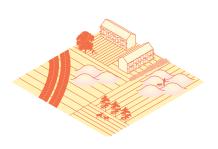
A sustainable living environment

Brunnshög is to lead the way to a smarter and more sustainable society. At the same time, sustainability is a broad concept that needs to be defined more clearly in order to be made operational. For this reason, three profiles have been created – minimise, balance and maximise.



Minimise

Minimising the climate impact of the urban development is about producing sustainable energy, reducing energy consumption and adapting the urban environment to withstand the effects of climate change. The planning must simply make it easy to be climate smart. New urban environments need to be designed in response to the future climate. Planting trees reduces the need for cooling and curtails wind speeds in the area, rain water is diverted to floodable surfaces in the cityscape, and green roofs hold up storm water and reduce the effects of heatwaves. The work to minimise climate impact is visible in Brunnshög and gives the area a distinct identity.



Balance

Balancing and compensating for the rich arable land that disappears when the area is developed is one of the main tasks. Agricultural land takes hundreds of years to establish and constitutes a global resource that may be scarce in the future. Around half of Sweden's food production is located in Skåne and the arable land is valuable from many perspectives, which is taken under serious consideration when planning Brunnshög. Possibilities and methods for safeguarding arable land and increasing biodiversity are being investigated early in the development process – the vision is to be able to restore 30% of the developed land to arable land in the future. Urban farming is becoming a natural and obvious feature of the cityscape.



Maximise

Maximising impressions entails focusing on people and creating an environment where the many will be happy. The physical design of the area must make it easy for people to meet and to see one another. Courtyards, parks and squares also have strategies for generating sound, smells, tastes and other sensory impressions to provide a stimulating environment. This will be a city district where it is as easy to find new friends as it is to find a spot for relaxation. Any major development of a city will raise questions about history and identity. Brunnshög contains several older environments that must be preserved to the greatest extent possible. They provide important links to the area's history and a valuable structure and contrast to the new buildings.



The first residents

Long before Sweden became Sweden, there were people living at the place we now know as Brunnshög. People have been coming and going here for almost 6,000 years.

Some of the first farmers in Sweden were probably to have been found in Brunnshög. An archaeological excavation in Brunnshög unearthed remnants of naked grain dating back almost 6,000 years. Back then, of course, there was no place called Brunnshög – there wasn't even a place called Sweden – but, at the site where Brunnshög is currently being built, people have been living and working the land for thousands of years. And they left their traces behind them, deep in the ground.

Different time periods have left different kinds of traces. In Brunnshög, traces of Stone Age people have been found in the form of naked grain, flint axeheads, flint scrapers, ovens and the remains of buildings. Archaeologists have also uncovered traces of a large palisade – an area measuring around 50×100 metres – the only such example that has so far been found in the area around

Lund. It is not really known what the palisade would have been used for, but it could have served as a combination of a place of worship, an enclosure for cattle and a meeting place.

Archaeologists have also uncovered a great number of finds dating from the Iron Age – traces of the cultivation of corn, wheat, oats, rye and linseed suggest that the majority of people in the area were farmers. Iron Age farmers – who would also own animals such as horses, cows and sheep – often remained at their farm or village for a couple of generations. After a while, their buildings would deteriorate and the ground would become barren, so the farmers would then move on to another location where they could farm the land and begin a new life. In Brunnshög, however, on the road that would later come to be known as Odarslövsvägen, there was a farm that was used for an unusually long time.

Excavations show that a succession of new buildings were built to replace previous ones on the same place for a period of more than 800 years. If we look upwards, we can see that the traces left behind by Iron Age people were not only buried beneath the ground – they also left their mark on the landscape we see today. Many of our roads are actually very old, and the routes they follow are rarely accidental. While the rest of society continued to change, the network of roads and paths remained and can now tell us about how the world once looked.

Although we continue to unearth artefacts from the Stone Age and Iron Age, we still don't know a great deal about these times. A flint axehead, or the remains of buildings or a palisade provide us with clues about how people lived, but they have little to tell us about the people who once lived here. What was it, for example, that caused Iron Age residents to choose to remain at the same place on Odarslövsvägen for 800 years? It is something of a paradox that the more we research and learn about the past, the clearer it becomes that we actually know very little about times gone by. What we do know, however, is that some people chose to live in Brunnshög for their entire lives, while others settled for a short time before moving on. Brunnshög is a place where people have lived and worked, experienced joy and sorrow, and made friends and enemies – for thousands of years.









About this document

Brunnshög – summary of visions, strategies and goals

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Project Office Brunnshög: pp. 3, 4-5.

Katarina Rundgren, Testbedstudio arkitekter AB: pp. 7, 8, 13, 23, 26-27.

COBE Architects: pp. 9, 11.

Mandaworks: p. 11.

FOJAB Arkitekter: pp. 19, 21.

Photo

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info.brunnshog@lund.se lund.se/brunnshog The future is for the curious and the innovative. For those dreaming of a better place. A place with people in focus and with nature around the corner. A place where knowledge and innovation from the whole world is gathered. Where we learn from each other and grow together.

The future is a place where we preserve energy that would otherwise be wasted, using it to heat an entire city district.

The future is for the impatient. For those who just cannot wait. And why would they? The future is now, and it is in Brunnshög.