

*Vision

Bouwinvest Paris Proof in 2045



Collaboration and acceleration
essential for CO₂ neutral portfolio
by 2045

Social responsibility

We take our responsibility with regard to combatting climate change seriously. We are doing this by investing in making the buildings in our portfolio as energy efficient as possible, without reliance on gas. Buildings that have achieved these targets, we call Paris Proof. This paper outlines our vision, ambition and approach to accelerating our transition to a Paris Proof portfolio, together with our partners and tenants.

Background

Real estate has a key role in the transition to a fully sustainable energy system. Real estate is both one of the major causes of climate change and part of the solution. More than 30% of global CO₂ emissions are down to the built environment – via the production of electricity and heat. Buildings are major users of electricity and heat, accounting for some 40% of available energy (Source: TNO).

The Netherlands has set a target of curbing greenhouse gas emissions by 2050 to 95% of 1990 levels. This means we must both use less electricity and generate energy from renewable resources. Where this is not possible, fossil fuels should be used in such a way as to keep emissions to a minimum. The aim of these measures is to limit climate change. In the 2015 Paris Climate Agreement, it was agreed to limit global warming to well below 2 Celsius and preferably to 1.5 degrees Celsius, by 2050, compared to pre-industrial levels.

The Dutch government has drawn up its own targets to reduce CO₂ emissions as part of the drive to reach international climate goals. At the moment, we are trailing, and if we continue to produce CO₂ as we are doing now, we will not hit the first target – a 45% reduction – in 2030, as planned. In fact, the Netherlands Environmental Assessment Agency suggests that to meet that target, we will have to double the annual rate of reduction. In other words, we must accelerate our approach to reducing CO₂ emissions to meet the Paris Climate Agreement.

Our responsibilities

As a major player in the real estate sector, we consider it our responsibility to contribute towards meeting these targets by ensuring our buildings are responsible for fewer emissions. And as a long-term investor on behalf of pension funds, we are extremely aware that without action, the people paying their pension premiums will not be able to enjoy their retirement in a pleasant, safe and healthy environment. We are also aware that in that case, the value of the buildings in our portfolio will decline. This, in turn, will have a negative impact on the size of pensions. And finally, we consider it our responsibility to make a contribution to society which goes further than simply investing in real estate.

The basic premise is that by 2050, all the energy we use will come from sustainable sources such as solar and wind. But current projections indicate we will only be able to generate one third of our current energy needs using renewables. This means that the energy use in the built environment must be reduced by two-thirds in 2050. To do this, buildings must be made Paris Proof – as energy efficient as possible, and gas free.

Bouwinvest's climate ambitions: Paris Proof in 2045

The Netherlands has adopted the Paris Climate Agreement climate targets with the aim of ensuring the built environment is as energy neutral as possible and that the use of gas has been phased out by 2050.

Bouwinvest wants to bring forward this deadline by five years: It is our ambition to meet the Paris targets by 2045 at the latest. In other words, by then our entire portfolio should be Paris Proof.

This pledge has been enshrined in the Paris Proof Commitment established by the Dutch Green Building Council (DGBC), in which we and dozens of other private companies are involved, as well as in the Net Zero Carbon Buildings Commitment drawn up by the World Green Building Council. As a DGBC partner, we play an active role in the Paris Proof programme, working toward developing building-specific climate targets and drawing up guidelines to support the real estate sector in making the built environment Paris Proof.

Why in 2045

Time is running out and we will not meet the climate change targets if we continue with the current rate of adaptation. We need to accelerate. And we see this contribution towards reaching the targets earlier as our way of showing that we take our responsibilities seriously as well as meeting our clients' expectations that their capital is invested in a responsible and sustainable way.



As a long-term investor, we want to make sure that we are not forced to bring in measures at an inconvenient moment. We know what has to be done, and we want to accelerate our progress. We recognize that it will involve some juggling to combine all the requirements and meet all the different targets, so by bringing forward our deadline, we are reducing the risk that we will be hit by unexpected or higher costs resulting from the energy transition. In this way, we also ensure the long-term return on investment for our clients remains stable and predictable.

How are we putting the energy transition into practice?

By setting targets in the form of maximum annual energy use per square metre (kWh/m²), it becomes clear just how large the challenge to boost sustainability actually is. In addition, we can assess what measures we need to take to meet the targets. Buildings which meet these targets, and which do not use fossil fuels, are in line with the 2050 climate targets and can be deemed to be Paris Proof.

'By
2023,
all offices in the Netherlands
must have at least a
C energy
label'

Actual use:

Energy label (theoretical use):

To ensure our buildings meet climate targets, we use the actual energy usage figures and have set a standard usage per m² for each type of building. We use the standard developed by the DGBC.

What starting principles do we use in making our buildings Paris Proof?

We have adopted a smart, practical and logical sustainability strategy to ensure our portfolios successfully transition to become CO₂ neutral. This is based on the following key points:

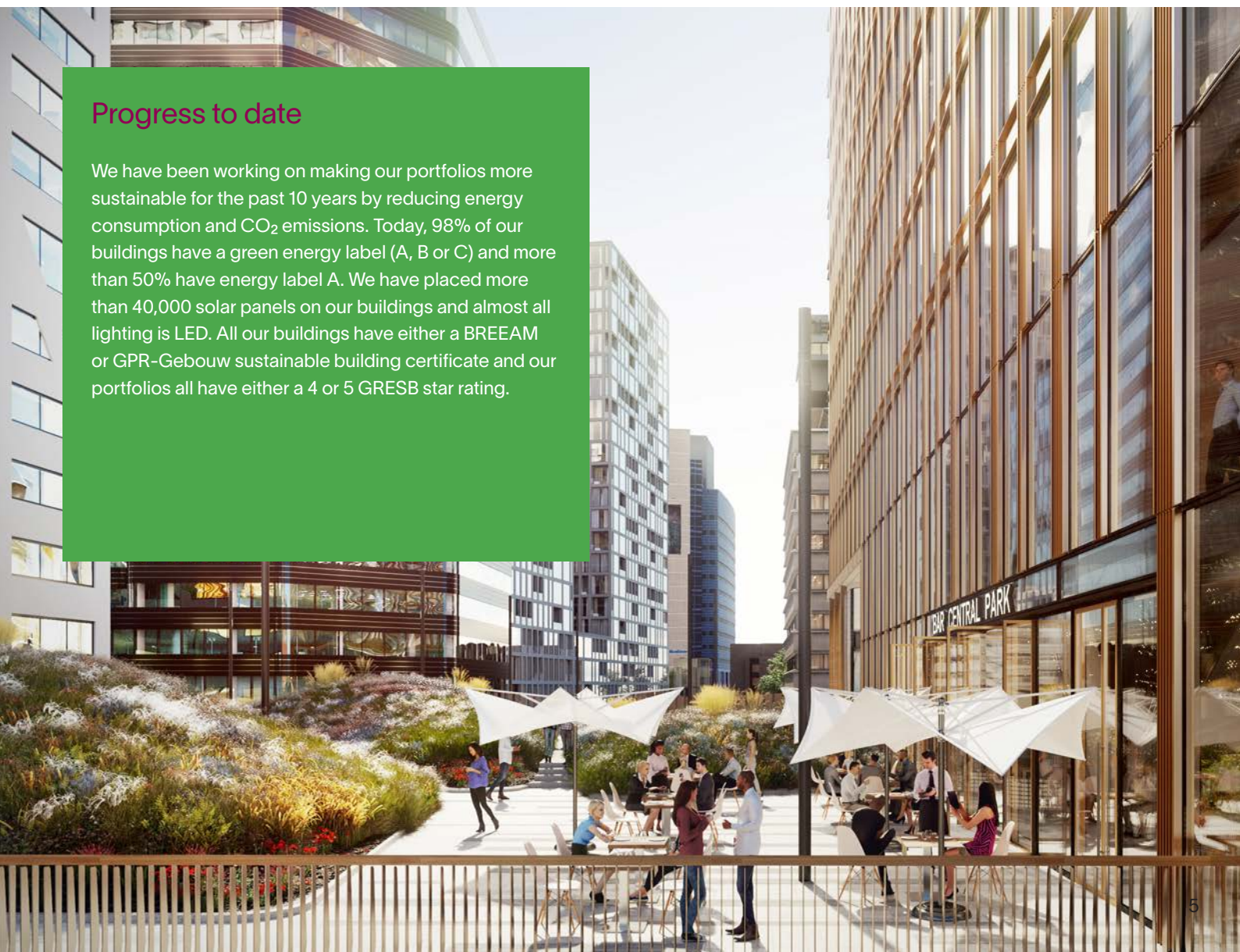
- We are striving towards measures which result in an optimal relationship between costs, CO₂ reduction and improvements in comfort
- We are looking for solutions which can be justified financially to our clients
- We will make changes when building maintenance plans allow

- We focus on actual energy use and expect to meet targets by 2045 at the latest
- Where possible, we will work in line with local authority transition plans
- We will work together with other interested parties where possible so we can benefit from economies of scale, and other forms of efficiency and effectiveness.

In all, this means we are going further than simply eliminating the use of fossil fuels in our buildings. In the long term, there will be too little energy available from renewable sources to avoid making energy savings as well. So we are focusing on more than CO₂ emissions. It is essential to reduce the total energy usage (kWh/m²) of our buildings to meet the Paris Proof standard. By adopting these starting principles, we are limiting the risks associated with the energy transition, keeping investment manageable and ensuring stable and predictable returns.

Progress to date

We have been working on making our portfolios more sustainable for the past 10 years by reducing energy consumption and CO₂ emissions. Today, 98% of our buildings have a green energy label (A, B or C) and more than 50% have energy label A. We have placed more than 40,000 solar panels on our buildings and almost all lighting is LED. All our buildings have either a BREEAM or GPR-Gebouw sustainable building certificate and our portfolios all have either a 4 or 5 GRESB star rating.



What does this mean for our Dutch real estate funds?

1

We are sharpening up our targets for new-build acquisitions on an annual basis.

As a long-term investor, we are depending on the supply and availability of new projects. And when we do want to make additional progress in terms of sustainability, it is preferable to have an intensive relationship with local authorities, developers and investors. We prefer to work with developers who go beyond the legal, minimal standards and who think about long-term wealth creation. We will continue to tighten up our own tough sustainability requirements in the coming years. Where possible, we will ensure new build already meets the Paris Proof standards. This means that they by far exceed the government's own requirements on delivery.

This involves the following steps:

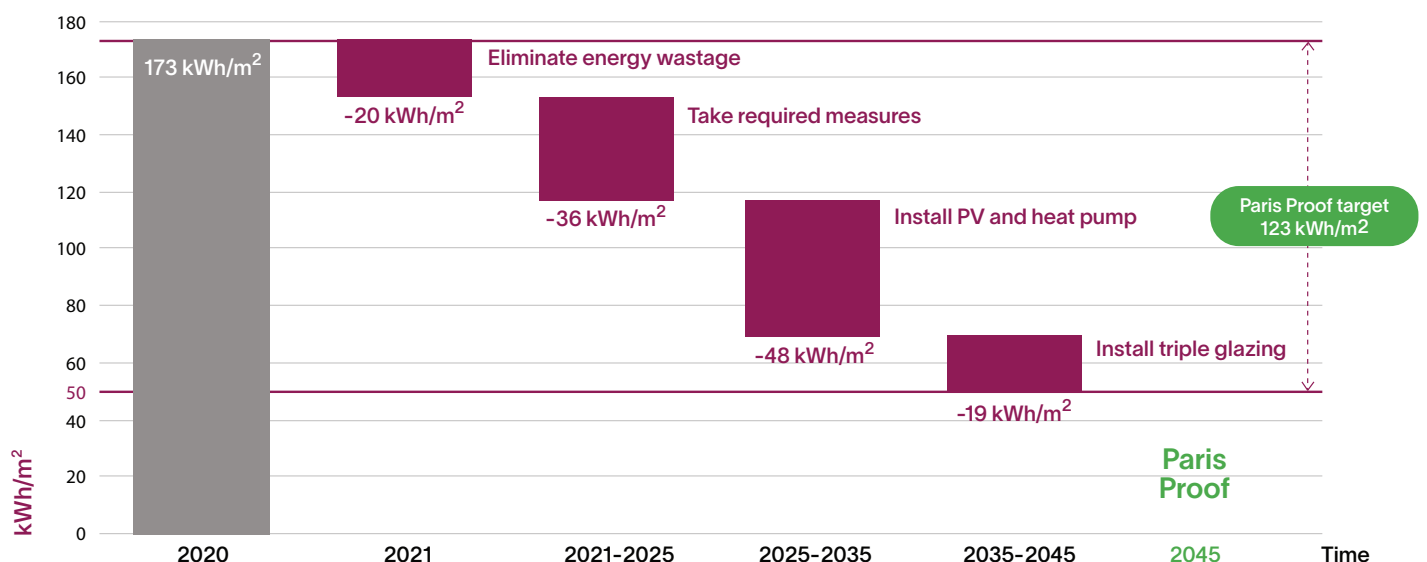
- Drawing up a list of the relevant features of each building which provides information about the level of sustainability, such as age, level of insulation and the type of technical equipment
- Analysing the actual energy usage of each building and comparing this with the theoretical usage
- Choosing which measures should be taken to achieve Paris Proof standards and calculating the effect of these on energy usage, CO₂ emissions, costs and revenue
- Determining a timetable for carrying out the improvements which, where possible, should dovetail with local authority planning and our existing maintenance schedules

The road maps will show which measures should be implemented in which building to meet the Paris Proof standard (kWh/m²). They will also indicate the effect of the measures (in terms of energy and CO₂ savings and cost cutting), the most appropriate timetable to carry out the work and the size of the investment. We will also use the information to expand the existing multi-year maintenance plans and the sustainable multi-year maintenance plans. In addition, we take into account the division of the cost of the measures between owner and tenants.

2

We are drawing up Paris Proof road maps and are following them

We are drawing up road maps at a portfolio and asset level outlining the measures we plan to take in the next 20 to 25 years to make them Paris Proof.



Example road map for an office complex

The Residential Fund's road map, for example, shows that once the measures have been implemented, the emission of some 28,000 tonnes a year of CO₂ will have been prevented – equivalent to planting 1.4 million trees. Every building in the fund will have been removed from the gas network, will have proper wall and roof insulation, and solar panels. Of course, acquisitions and divestments in the years to 2045 mean the fund's composition will change. Technology will also advance, bringing new options and requiring amendments to the road map. In addition, we have opted for a flexible, data-driven approach. This means we have compiled various data sources, including smart meter information, to calculate the impact. And as new data comes on stream, we can adapt the road map relatively easily.

3

We measure, monitor and manage according to actual energy usage

By measuring the actual energy usage per square metre (the energy intensity) at a building and user level, we gain insight into how a building functions and how it is used. To be able to analyse this data properly, we use a system in which data about energy, water and waste is processed automatically. This system allows us to monitor the environmental impact of a building centrally and to steer towards an efficient use of energy and water. We also place smart metres and sensors to gain greater insight into how energy is used within a building. We use these insights to further improve the road map, as well as to inform tenants about their energy use and how to make savings.

4

We involve the tenant and the property manager in the decision-making process

A sustainable building may not necessarily be used in the most energy-efficient way. To reach the Paris Proof targets, we also need the participation of the people who use it.

This is why we involve tenants in the process. We do this by:

- Sharing data about energy usage to increase awareness
- Make agreements about the division of the cost and benefits of the measures to be put in place
- Stimulating tenants and users to reduce their own energy usage and to use energy-efficient apparatus

We put this alliance into effect in the form of a contract.

In the residential sector, we do this by means of an 'Our home declaration', which is part of the rental contract. This agreement is similar to the green rental contracts which we agree with tenants of commercial real estate. We also work with the property manager to ensure that the building's technical equipment operates as efficiently as possible and that the use of energy is in line with expectations, given the building's specific characteristics and energy label.

5

We work together with our partners

Making our buildings Paris Proof is part of our responsibility as an investor. But this ambition can only be achieved if we work together with other companies and organisations with a vested interest in the built environment.

- **Local authorities:** Local authorities are required to draw up their own campaign plan to facilitate the transition to a gas-free society and this too is helping us reach our targets. As a long-term investor, it is crucial that we are aware of local authority strategies for curbing the use of gas. We are not always directly involved in drawing up these policies, so we also research the strategies that have been drawn up in areas where we manage real estate investments. The insights this research generates allows us to determine when it would be useful to have direct contact with the local authority. By choice, we would be involved from the word go, so that we can think together about solutions and the planning.
- **Developers, construction companies and technical suppliers:** The companies we collaborate with in the construction sector have an important role in the drive to meet climate targets. Our challenge is to make it clear what our targets are and what we expect from them. We also expect our partners to share their expertise and experience, and to keep challenging us. We start talking to developers and building companies at an early stage to determine sustainability solutions for all our portfolios.
- **Pension funds:** Socially responsible investing is increasingly important to pension funds and insurance companies and in many cases they too have signed up to support the United Nation's sustainable development goals. In addition, they may be signatories to the Dutch government's climate agreement and to the Covenant for International Socially Responsible Investing. These initiatives highlight the considerable willingness

to make agreements and invest in a sustainable future, as well as pension funds' direct involvement in the energy transition via their real estate investments. Involving our clients in making the energy transition concrete, and dealing with the dilemmas we come up against, is a continual process.

‘To reach our targets,
we work closely together
with clients, tenants and
partners’

6

We invest in knowledge, innovation and technology

Investing in knowledge and innovation is crucial in realising our sustainability targets. We use new technology where possible and build on our expertise through our membership of various innovation platforms. For example, to help make our real estate portfolios Paris Proof we look for new, improved ways of generating electricity, heat and energy storage systems and smart ways to manage buildings using the latest software and sensors. We also try to ensure that our buildings are energy efficient and ensure a pleasant and healthy indoor climate for users.

7

We share our experiences and results

Meeting climate change targets is a joint responsibility and collaborating with partners is more crucial than ever. This means sharing our knowledge about sustainable solutions with each other to take that knowledge further. We open up the data, presentations and research that we compile about the energy use of our residential and commercial real estate to our partners who are also working towards reaching climate targets – with due respect to privacy, of course. We are also members of various scientific and other platforms to learn and to share more about the processes. Bouwinvest also invites third parties to come and talk with us.

Transparency is essential. We will be transparent about our energy use and CO2 emissions, so that everyone can see how energy efficient our portfolios are and that it is clearly visible what steps we are taking to make our portfolios Paris Proof. Our sustainability performance, like our financial performance, is monitored and verified by third parties.

We work together to devise sustainable solutions: some examples



Koningin Wilhelminaplein, Amsterdam

Vattenfall and district heating

Bouwinvest is working with energy company Vattenfall, also a Paris Proof DGBC partner, to determine if an existing city heating scheme can be extended to the Amsterdam district of Nieuw Sloten and to the area around the Koningin Wilhelminaplein. The city heating project will make it possible to remove homes in these areas from the gas network.



Combining expertise

iwell and smart batteries

Bouwinvest is working with iwell to link solar panels to smart batteries which temporarily store the electricity produced so its use can be optimized.

The battery also functions as a buffer to support demand peak periods. The pilot scheme in an apartment complex in Utrecht proved a success and will be rolled out to other locations.

The alliance with smart battery maker iwell is part of a broader programme to reduce reliance on the national grid.



Rijswijk Buiten, Rijswijk

An almost energy neutral city district

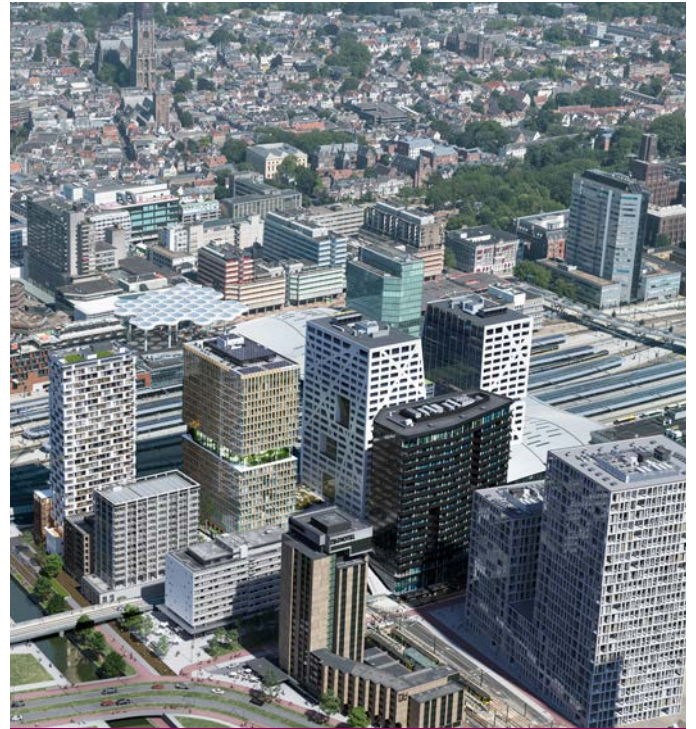
Rijswijk Buiten is a residential area that will be completed in 2023. The 200 rental properties on the estate are energy neutral. In order to make this a reality, we have equipped the properties with the following:

- Solar panels and heat pump and boiler
- Triple glazing
- Insulated external walls and front door
- Shower equipped with waste water heat recovery system
- An airborne heat recovery system
- LED lighting in communal areas triggered by movement sensors

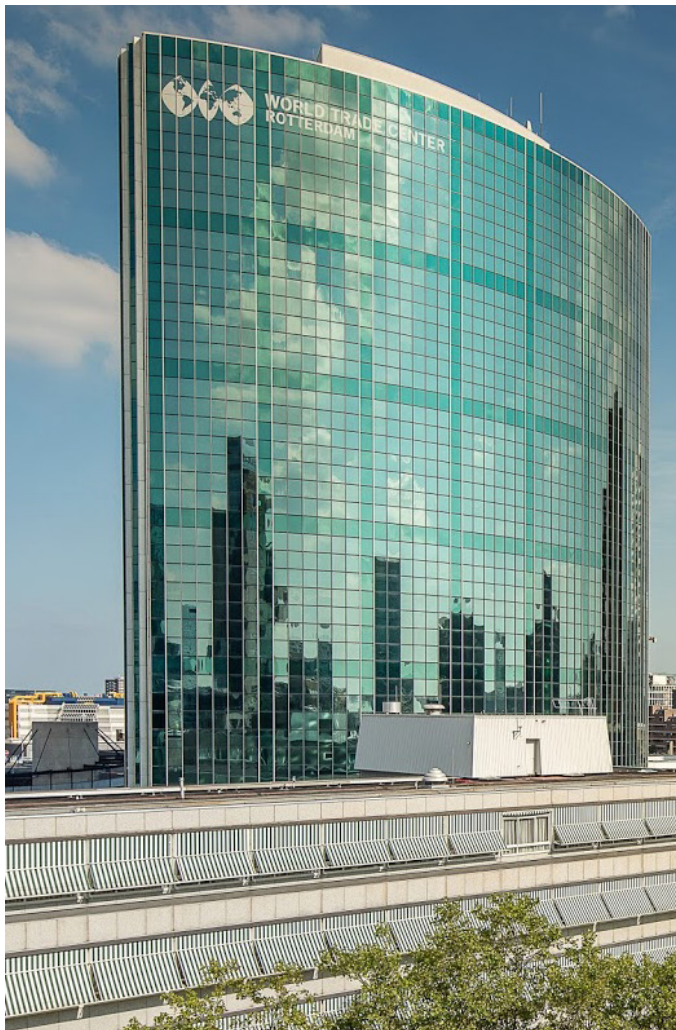
All-in rent for offices

We work together with office tenants to agree, where possible, an all-in rental price. This means the tenant pays a single, fixed amount for using the office space, including energy, maintenance and management costs. In traditional rental contracts, if landlords invest in extra energy efficiency, it is the tenants who benefit in the form of lower service costs.

- Some of the advantages of an all-in rent
- Energy savings generated by investment in energy efficiency benefit the landlord, allowing them to earn back their investment
- Tenants know that their offices will become increasingly energy efficient without any extra costs to themselves
- Simpler administration for tenants
- Positive impact on the value of the property
- More clarity about obligations and expectations
- More focus on realizing quality on behalf of tenants



Central Park, Utrecht



World Trade Centre, Rotterdam

WTC Rotterdam rose from energy label E to A, cut energy use by 20kWh/m²

World Trade Centre Rotterdam's main tower was recently awarded energy label A. While renovation projects often boost energy efficiency, a leap of this level is rare. In this case, the improvement has been largely down to adapting the indoor climate system. The air conditioning installation now uses an exhaust air heat recovery system to reduce the amount of energy needed to warm up colder air from outdoors. In addition, the lower building has been equipped with solar panels. LED lighting has been introduced throughout the complex and where possible, sustainable alternatives have been used in the renovation process. The entire package has cut energy usage by 20kWh/m². This means we still need to make further improvements to hit the target 50kWh/m² reduction to make the complex Paris Proof.



Proeftuin Strijp S, Eindhoven

Testing smart DC electricity systems in high tech apartments

Bouwinvest conducted an 18 month pilot project at the BLOK 61 residential complex on Strijp S in Eindhoven, together with VolkerWessels iCity, to connect several apartments to a direct current (DC) grid powered by sustainably generated energy. Residents living in the 14 smart apartments were able to monitor and regulate various systems in their home – think turning up the heating at a distance or switching on a burglar alarm – by using a purpose-built app. As part of our efforts to stimulate innovation in the field of smart living, we have bundled our insights, conclusions and recommendations drawn from this experiment into a recently published white paper.



AH supermarket Molenhoek, Rosmalen

Uniting sustainability targets: renting solar panels to a supermarket group

The alliance between the Bouwinvest Retail Fund and the Albert Heijn supermarket group has led to a rental agreement covering the use of solar panels at the retailer's store in Molenhoek, Rosmalen. The agreement contributes towards both parties' green ambitions and can now be expanded elsewhere. Agreements of this sort are still relatively rare and require close cooperation which is why shopping centres' vast roofs are often under used. Albert Heijn and Bouwinvest have been able to cut through the practical, technical, financial and commercial obstacles which arose and now Albert Heijn leases 368 solar panels from Bouwinvest. The panels provide an average annual 100,000 kWh of electricity.

Data-driven, Paris Proof road maps

We need road maps with reliable data to meet our Paris Proof 2045 targets. To achieve this, we have formed an alliance with INNAX, a DGBC Paris Proof partner which works on boosting sustainability in the built environment. We are working together on combining internal and external sources to make data-driven Paris Proof road maps.



Rachmaninoff, Utrecht



Central Park, Utrecht

A DGBC and Bouwinvest alliance since 2007

The collaboration between Bouwinvest and the Dutch Green Building Council stretches back to 2007, when Bouwinvest was one of the founding partners. Since then, we have worked together on boosting the sustainability of the built environment in the Netherlands. Two years ago, Bouwinvest signed up for a new DGBC initiative, the Sustainable Renovation Delta Plan, to speed up the process.

The method of calculation used by the DGBC to determine progress towards becoming Paris Proof produces a concrete target – the maximum energy use per square metre per year. For offices, for example, the standard is 50 kWh per square metre.

In signing the DGBC's Paris Proof Commitment, Bouwinvest has agreed to meet the ambitious target of reducing energy use in the built environment by two thirds, and therefore reduce CO₂ emissions. We have, therefore, committed to accelerating the process by which the real estate in our portfolios becomes more sustainable through innovation, measuring actual energy usage and by stimulating others to join the process.

Bouwinvest Real Estate Investors

Bouwinvest Real Estate Investors is specialised in managing real estate portfolios for institutional investors (pension funds and insurance companies). We invest for the long term, in a responsible way, while keeping watch on the world around us. Our aim is to generate sustainable returns for our clients. We currently manage €13.3 billion (2020) in assets.

Buildings in our portfolio

417 under sole management + some 160,000 via alliances (2020)

Square metres under sole management

2,651,000 m² + some 70 million m² via alliances (end 2020)

Workforce

200

Paris Proof Commitment

Ambition

All our real estate portfolios should be Paris Proof by 2045 at the latest, by ending the dependency on fossil fuels, introducing renewable energy sources and upgrading buildings so they are extremely energy efficient.

Transparent

The annual energy use and CO₂ emissions generated by the portfolios will be made public.

Road maps

Road maps will be drawn up for all the portfolios and individual buildings. The road maps will be put into practice so that energy use and CO₂ emissions are reduced on an annual basis.

Monitor

Progress towards becoming Paris Proof will be verified externally on an annual basis and we will strive to have complete energy data coverage for each portfolio by the end of 2030.

Commitment

We will show leadership towards our stakeholders – pension funds, tenants, the sector, partners and suppliers – by proactively involving them and working with them to realise our stated Paris Proof ambitions



Dutch
Green Building
Council

On the road to becoming Paris Proof

Acceleration is needed to reach climate change targets in a smart way.

2020

Bouwinvest (YE 2019)

- 98% energy label A, B, C
- >50% energy label A
- 40% gas-free portfolio
- >more than 40,000 solar panels installed
- LED lighting
- 100% of our buildings have a BREEAM or GPR sustainability certificate
- All portfolios have an above average sustainability score (GRESB 4 or 5 stars)

2030

The Netherlands

According to climate change legislation, the Netherlands must reduce CO₂ emissions by 49% compared with 1990. By 2030, one million homes should have been removed from the gas network.

2045

Bouwinvest intends to become Paris Proof by 2045

To achieve this, we must reduce the energy use of our buildings by 3 to 5% per year. This means buildings must be removed from the gas network, use less energy and, where possible, generate energy themselves. Remaining energy needs will be provided by buying in electricity produced from renewable resources.

2050

The Netherlands

has agreed that all energy should be produced from renewable sources only and CO₂ emissions should be reduced by 95% compared with 1990. Fossil fuels will be phased out completely.

Paris Climate Agreement

A commitment to limit global warming to no more than 2 Celsius compared with the pre-industrial levels and to strive for a maximum increase of 1.5 degrees Celsius.

Cooperation is essential to realise a CO₂ neutral portfolio in 2045

More than 30% of global CO₂ emissions are due to the built environment. We are convinced that our sector must act responsibly and actively contribute to meeting climate targets.

Bouwinvest's ambition is to ensure its complete portfolio meets the targets agreed in the Paris Climate Agreement by 2045.

We define a Paris Proof building as one which meets energy usage targets, based on renewable energy production projections by 2050. This makes the buildings completely energy neutral.

To become Paris Proof by 2045

1 We will sharpen up our targets for new build acquisitions on an annual basis

2 We will draw up Paris Proof road maps and implement them

3 We will measure, monitor and manage based on actual energy usage

4 We will involve the tenant and property manager in the sustainability process

5 We will work with our partners in the property chain

6 We will invest in knowledge, innovation and technology

7 We will share our experiences and results



Real Value for Life

Bouwinvest is an international real estate asset manager which aims to add value in a sustainable way. We are fascinated by the city of the future and we focus on *Creating real value for life*. Our investments contribute to sustainable, liveable and inclusive metropolitan areas and enhancing pension benefits.

Circularity

The earth's supply of raw materials is limited and, in some cases, is already running out. Clever recycling in the construction sector reduces the use of building materials, cuts the production of waste and boosts the sustainability of the real estate sector.

Climate adaptation

The different weather patterns emerging through climate change pose a challenge in urban areas. They influence our health, our quality of life, and home and office comfort and this, in turn, can cause economic damage. By making sure our buildings are adapted to these developments, we are reducing our vulnerability to the current and future impact of climate change.

Paris Proof

We counteract climate change by investing in gas-free and energy-neutral property. By focusing on Paris-Proof real estate, we are creating *real value for life*.

Affordable homes

We provide both affordable housing and a stable return for our shareholders. We do this by investing in mid-market rental homes to create *real value for life*.

Metropolitan regions

Successful metropolitan regions are not defined by their size but by the balance between growth and liveability. This is why we create *real value for life*.

Senior housing

The demand for housing for senior citizens and for healthcare-related property is only going to increase. By investing in this specific sector, we are creating both stable financial returns and having a social impact.



Further information

To find out more about our approach to becoming Paris Proof. Please contact:



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