

# OP Real Estate Asset Management Ltd Sustainability report 2019



OP

Globally, 2019 ended  
the hottest decade on record.  
The five warmest years in recorded history  
have occurred in the last five years.\*

Real estate causes almost 40 per cent of  
Finland's emissions.

We have a duty to take action.

\* Source: World Meteorological Organization

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Cover image:  
As Oy Helsingin Pajuniityntie, Helsinki.  
This is one of the first of our residential properties to switch to geothermal heating.  
The change will be made in 2020.

# 2019

KOy Kakolan Annes, Turku  
This apartment hotel is located in the former Kakola prison area.  
The conversion was carried out in 2016



# OP Asset Management and sustainability

OP Asset Management takes ESG perspectives into consideration in its investment decisions, that is, issues relating to the environment, social responsibility and governance. ESG dimensions are examined in all asset categories, and are also an integral aspect of OP Asset Management's activities through OP Real Estate Asset Management Ltd.

At OP Asset Management, we believe that including sustainability issues in investment decision-making reveals important information that would otherwise be missed during a purely financial evaluation. In addition to considering ESG dimensions, we take an active approach to ownership, carry out both positive and negative screenings, and monitor compliance with international norms.

As an active owner, we vote at general meetings both in Finland and abroad, exerting an influence on companies in various thematic areas (such as climate change, plastics, and the circular economy) and in cases of international norm violations. Sustainability aspects were more visible than ever in investments during 2019, in both the media and concrete action,

and we believe that this trend will continue over the coming years. The threats and opportunities arising from climate change are of particular interest to investors both now and in the future.

OP Fund Management Ltd and OP Asset Management Ltd were among the first of Finland's asset management companies to sign the UN Principles for Responsible Investment (UNPRI) in 2009. In addition, OP Asset Management became a public supporter of the international Task Force on Climate-related Financial Disclosures (TCFD) in spring 2019. Due to our involvement with the TCFD, we will be publishing even more extensive reports on the climate-related themes of our investment activities.

You can read more about OP's responsible investment policies on [our website](#).

Signatory of:



### 2019 key indicators

# -32 %

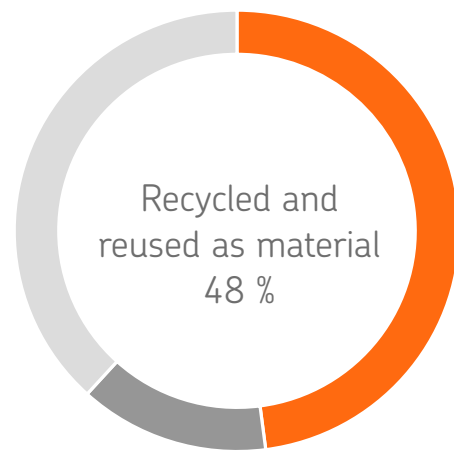
Weather-normalized heating energy consumption per m<sup>3</sup> has decreased over the last ten years

## Charging stations for electric cars in 21 properties

## Decision to use renewable electricity as of 1 January 2020

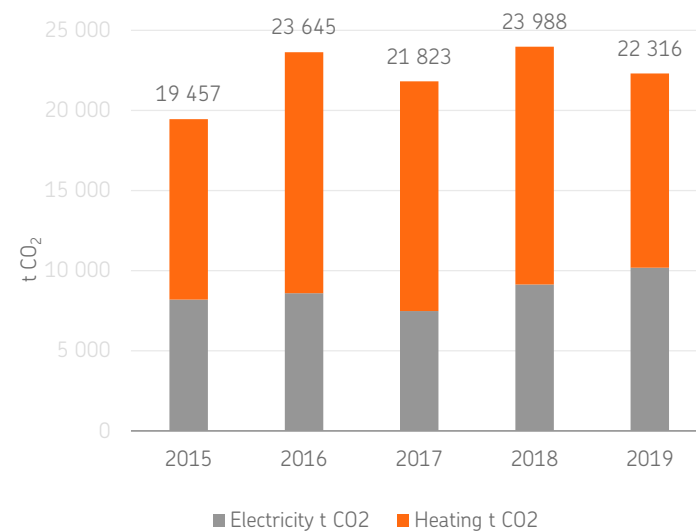
# 31

Wooden properties



- Recycled and reused as material 48 %
- Other recovery (energy) 14 %
- Mixed waste (burned in waste-to-energy plant) 38 %

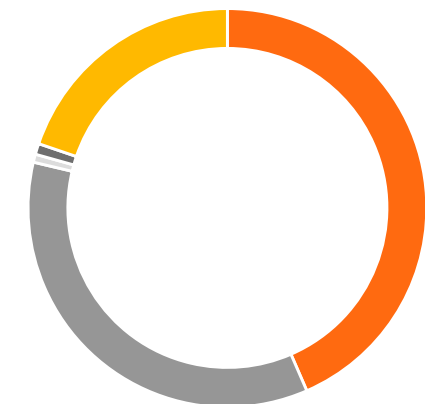
#### Energy emissions



## 16 properties with geothermal heating, properties with solar panels

# 18

#### Tax footprint



- Transfer tax from investments EUR 9.3 million
- Real estate tax EUR 7.6 million
- Insurance premium tax EUR 0.1 million
- Energy tax EUR 0.2 million
- Value added tax EUR 4.2 million

# OP Real Estate Asset Management Ltd

As Oy Hämeenlinnan Logi, Hämeenlinna  
In the background, you can see one of our daycare centres –  
the Varikonniementie daycare centre in Hämeenlinna –  
with solar panels installed on its roof.



# OP Real Estate Asset Management Ltd in a nutshell

## Our mission

We manage real estate funds and our clients' direct real estate investments.

We provide the full range of real estate asset management services.

We provide expert services for OP in the real estate sector.

We represent OP parties as a lessor.

## Networked operating model

We work in close co-operation with the following key partners:

- Newsec
- Vahanen Monitoring Services
- Lassila & Tikanoja
- Construction network
- Renting agency network
- International investment network
- Rent collecting network

## Investor clients

Our investor clients are:

- OP's insurance and pension institutions
- Institutions and professional investors
- Private persons

## Portfolio

Commercial and other properties	2018	2019
Number of properties	110	139
Gross area of properties (m <sup>2</sup> )	663,000	775,000
Number of lease agreements	650	670
Vacancy rate, %	86.9	88.2
Market value, EUR billion	2.2	2.0

Residential properties	2018	2019
Number of properties	95	125
Gross area of properties, m <sup>2</sup>	210 000	330 000
Number of apartments	4 070	5 819
Utilisation rate, %	98,0	97,4
Market value, EUR billion	0,9	1,3

Forest	2018	2019
Area, hectares	62 500	80 400
Number of properties	404	616

Indirect property investments	2018	2019
Number of funds and objects	65	65

## Real estate assets

We are part of OP's Corporate and Institutional Clients organisation.

We manage approximately EUR 3.5 billion in real estate assets.

Our team comprises 20 people.

**EUR  
3.5  
billion**

## Tax footprint

We paid a total of EUR 21.5 million in taxes in 2019. Transfer tax accounted for the largest proportion of these taxes (43%).

We also paid real estate tax (35%), value added tax (20%), insurance premium tax (1%) and energy tax (1%).

**EUR  
21.5  
billion**

## Employment

Our real estate business employed about 2,800 people in 2019. Construction and renovation is a major source of employment, creating jobs for about 2,600 people. This figure is a calculated estimate of man-years, and is based on maintenance and construction costs.

**2,800  
man  
years**



# Real estate investment products

We manage several funds in the form of limited partnerships and three special common funds. We also actively invest in mortgage-backed debt instruments. We also manage the real estate investment activities of OP Financial Group's insurance and pension institutions.

## CLOSED-END FUNDS IN THE FORM OF LIMITED PARTNERSHIPS

Real Estate Fund of Funds II Ky

Real Estate Fund Finland III Ky

Real Estate Debt and Secondaries Ky

Real Estate Fund of Funds V Ky

## SEMI-OPEN FUNDS IN THE FORM OF LIMITED PARTNERSHIPS

OP Toimitilakiinteistö Ky

OP Tonttirahasto Ky

## DEBT INVESTMENT

A channel for funding Finnish and European real estate investment projects

## SPECIAL COMMON FUNDS

OP-Rental Yield (special common fund)

OP-Forest Owner Fund (special common fund)

OP-Public Services Real Estate Fund (special common fund)

## OP FINANCIAL GROUP'S INSURANCE AND PENSION INSTITUTIONS

A-Insurance services Ltd

OP Bank Group Pension Fund

OP Bank Group Pension Foundation

OP Life Assurance Company Ltd

Pohjola Insurance Ltd



As Oy Helsingin Pastelli, Helsinki

## Indirect real estate investment

OP Real Estate Asset Management influences the sustainability of underlying investee funds through its active investment policy.

In addition to direct real estate investment, our investors have invested in about 65 real estate funds or companies. The majority of these are in Europe. In a fund investment, the underlying investee fund's management company manages the property holdings. We choose our underlying investee funds with great care, which means we can trust them to comply with agreed policies in both property acquisition and management.

Through our investment activities, we want to promote the adoption of responsible investment

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As part of our investment process in collaboration with OP Asset Management, we determine how a potential underlying investee fund and its management company take the principles of sustainable development and responsible investment into account.

principles in the real estate investment sector. We require our underlying investee funds to take the UN's Principles for Responsible Investment into account in their investment activities and decision-making.

We are delighted at how many of our underlying investee funds have applied for environmental certificates for their properties.

Foreign fund managers have been showing considerably more interest in participating in annual Global Real Estate Sustainability Benchmark (GRESB) reporting. All of the new real estate fund investments that we have made abroad over the last few years have been in underlying investee funds whose management companies participate in GRESB reporting.

We have indirect investments in about

65

real estate funds or companies



The OREIMA III SCA fund's investment, 19 avenue de l'Opera, is a historically valuable stone building in the Haussmann architectural style. It seeks to refurbish the building to meet modern requirements, whilst respecting its history and original features. Work to secure "BREEAM in use" environmental certification (level: good) is ongoing.

The property is located in the 1st arrondissement of Paris, between the Opera House and Louvre, and is exceptionally easy for access by both car and public transport. The closest metro station, for lines 7 and 14, is right next to it. The nearest bus line runs past the building. There is also a Velib' bike station (for Paris' public bicycle sharing system) and a public car park at the foot of the building.

# Sustainability



As Oy Helsingin Reportteri, Helsinki



# Sustainability is part of everything we do

Climate change is the greatest challenge of our age. Our sustainability efforts focus on curbing climate change in particular, without forgetting other ESG aspects.

We are long-term investors. We work to lengthen the lifecycles of our properties in order to reduce their environmental impacts and the need for renovation and new construction.

## Sustainability targets and steering group

We have been systematically developing our sustainability efforts for several years now, by setting and actively monitoring targets for our sustainability programme. We published our first environmental report in 2014.

We have also been investigating ways in which OP Real Estate Asset Management can achieve carbon neutrality and will be drawing up a road-map for this in 2020.

## Real estate acquisition

When deciding which properties to acquire, we conduct an ESG assessment that includes factors such as energy consumption, location, soil and construction materials.

## Real estate development

When developing sites, our sustainability criteria steer the project's activities. We have significantly increased the production of renewable energy at our properties and are improving the waste recycling ratio at our construction sites in collaboration with contractors. In the future, we will also be promoting the improved recycling of demolition waste, and we joined the Green Deal initiative in early 2020.

By supervising our own development sites, we can comprehensively influence a project's environmental perspectives. Whenever possible, we favour the use of low-carbon conversion projects instead of new construction.

## Real estate maintenance

Good real estate maintenance is the most important aspect of our sustainability. We are continually working with our partners to promote good maintenance. We actively adopt new technology and develop our properties for example to reduce energy consumption and increase biodiversity.

” Our carbon footprint has decreased 1,670 t CO<sub>2</sub> from 2018 to 2019



The block of light, Talvikkitie, Vantaa. Demonstrative image from the architect.

# Measures in 2019

## TETS targets achieved ahead of time



KOy Kouvola Karhut

We have reached the TETS energy efficiency agreement targets for our commercial properties ahead of time. Our energy saving target for the period 2017–2025 was 7.5%, with an intermediary goal of 4 per cent by 2020. Our systematic efforts enabled us to reach the target for the entire period by the end of 2018.

This was achieved by making major investments in new technology and on-site energy production at our properties. **By generating renewable energy at our properties, we reduce both our need to purchase energy and the emissions caused by energy consumption.** In conjunction with repairs, our properties have been equipped with machinery and equipment that uses less energy.

## Reducing water consumption



As Oy Sipoon Kopeekka

We have a significant number of residential properties in our portfolio. Minimising water consumption is particularly important in the case of hot water, as heating water consumes energy and causes emissions.

Specific water consumption has fallen throughout our portfolio. Consumption at our residential properties was about 1.5% less than in the previous year.

We have piloted new water-saving equipment at two of our properties and will continue by **installing this equipment in 25 more residential properties.**

## Sustainable transport



As Oy Turun Puulinna

Transport and travel account for around 30% of the average Finn's emissions (Sitra). Electric vehicles are one way to reduce emissions, and the charging network provided by properties plays a key role in facilitating electrification.

**There is a total of 63 charging stations for electric cars located across 21 of our properties.** All residential properties completed since 2016 have reservations for charging stations in their main distribution board, to enable the addition of charging stations.

In 2019, six of our residential properties also offered a half-price on-site spring bicycle maintenance service.

## Energy Awareness Week



As Oy Tampereen Ratinan Arvo

Motivating property users to use their property in a responsible way is one of the goals of our sustainability programme. **Every year, we take part in Motiva's Energy Awareness Week,** where we campaign for sustainable choices in a variety of ways.

Our themes for the 2019 Energy Awareness Week were sustainable consumption, sustainable transport, and reducing the use of plastics. We issued communications on sustainable choices, and handed out reusable bags to residents of rental apartment buildings in Turku and Tampere.

At three of our office properties, we ran bicycle maintenance campaigns to encourage property users to use sustainable modes of transport.

## Carbon-neutral logistics centre

During an energy renovation at the logistics centre, we switched from district heating to our own, emission-free heat production. The property has been carbon-neutral in terms of energy consumption since 1 January 2020.

The last phase of the Viinikkala logistics centre in Vantaa was completed in 2012. Although the centre is relatively new, an analysis of its energy efficiency and carbon dioxide emissions clearly showed that there was considerable potential for savings, in terms of both costs and a reduction in emissions.

In 2017, before the energy renovation, district heating consumption caused approximately 590 tons, and electricity consumption 115 tons, of CO<sub>2</sub> emissions. This equates to the emissions of 70 average Finns in a year.

” The solar power system produced 440 MWh of electricity in 2019, exceeding the original estimate.



GCT Viinikkala, logistic centre, Vantaa

During the renovation, a geothermal system containing 49 geothermal wells was installed on the plot, along with approximately 3,000 m<sup>2</sup> of solar panels. The building's lighting system was also updated by replacing almost 200 multi-metal and mercury-vapor lamps with LEDs.

In 2019, all of the heating energy consumed by the property has been emission-free geothermal energy.

In addition to producing solar power, the property has been purchasing hydroelectricity since 1 January 2020. This means that all energy used at the logistics centre has been emission-free since the turn of the year.

Tenants have welcomed this change. The property is fully heated using geothermal energy, meaning that there are no costs to pay for district heating. The maintenance charge includes a fixed

fee for geothermal heating, which was immediately lower than the cost of using district heating. Once the geothermal investment has been amortised, heating costs will be removed from the maintenance charge altogether.

# Energy production at our properties

Having a property produce its own energy is an effective way of curbing emissions.

The heating of buildings accounts for about a quarter of all energy consumed in Finland. District heating has the greatest market share, and up to 65% of new buildings use district heating. Although emissions from district heating will be halved during the 2020s, it will still be a long way from being carbon neutral. Finland has also committed to end coal burning by 2029.

We believe that, alongside improving energy efficiency, emission-free energy is an important step in working towards a carbon-neutral future. We produce renewable energy at many of our net rent properties in particular.

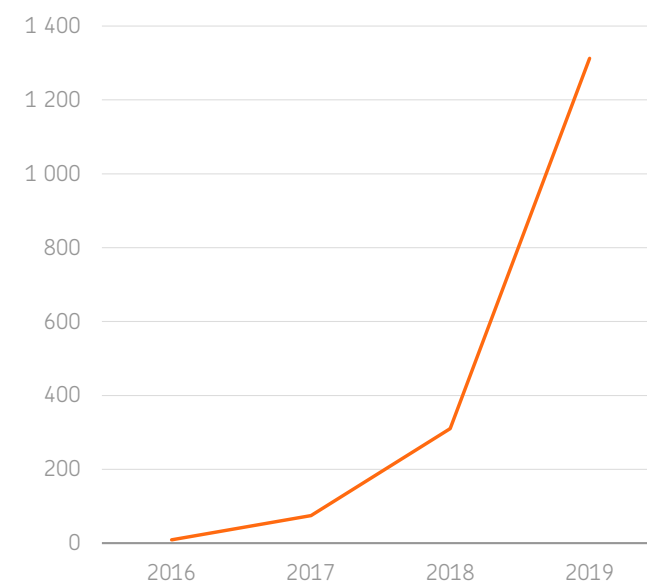
The production of renewable energy in our properties grew

**2.5-fold**

compared to 2018

**18** properties with solar panels

Solar power generation, MWh



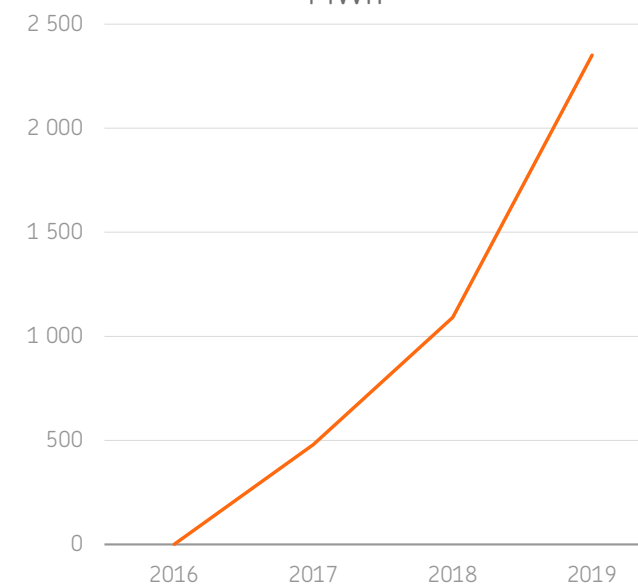
The number of solar panels, and likewise their production, has risen dramatically in recent years. In 2019, we had 18 properties with solar panels that produced 1,300 MWh of emission-free electricity.

Twelve additional sets of solar panels were ordered in 2019 for delivery during 2020.

The number of geothermal systems at our

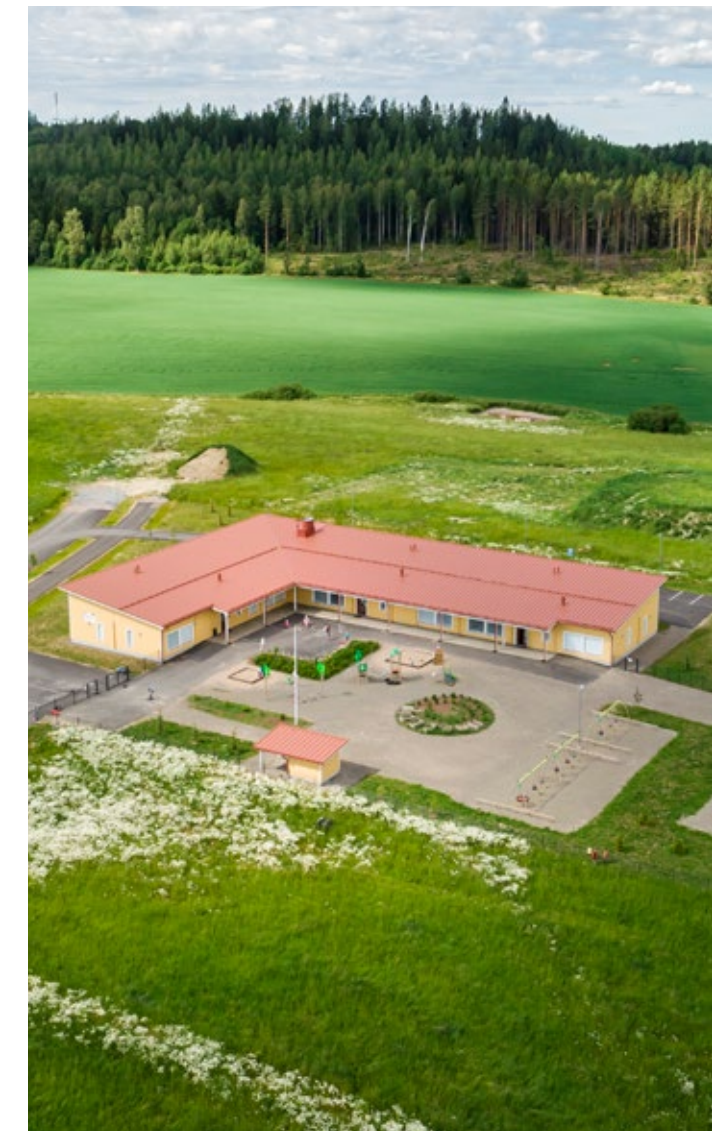
**16** with geothermal heating

Utilized share of geothermal energy, MWh



properties doubled from 2018 to 2019, and now stands at 16. In 2019, 2,350 MWh of emission-free heat was generated using geothermal energy.

In December 2019, the first of our blocks of flats was given the approval to switch to geothermal heating. This project is being implemented in 2020.



The daycare centre in Janakkala is one of our many daycare properties that use geothermal heating.

## Wood construction

The use of wood in construction helps to reduce climate emissions and the consumption of natural resources.

Construction is a significant source of emissions, and ways must be found to lower emissions in the construction phase. Using wood instead of concrete is one way of reducing the emissions caused by construction. It is also an effective way of helping Finland and the EU to achieve their ambitious emissions targets.

When used in construction, wood acts as a carbon sink, as the carbon bound by the wood will be retained in the structures and furniture for a long time. Wood construction also significantly reduces the consumption of non-renewable natural resources in the manufacture of construction materials.

A comparative study conducted by VTT examined the lifecycle emissions of two similar apartment buildings. The only difference between the buildings was their main material – wood and concrete. **The emissions embodied in the materials**

Wooden buildings in the end of 2019:

# 31 pcs

**of the concrete building were about 75% higher than those of the wooden building.**

We seek to promote the use of wood in our development projects. We had 31 wooden properties at the end of 2019, and new projects have already been agreed upon for 2020. The properties consist of 20 daycare centres, three residential buildings, three care homes for the elderly, and five special care homes. Many of the properties will also produce renewable energy, which further reduces their use phase carbon footprint.

Our tenants have also been satisfied with wood construction. In addition to their lower environmental impact, wooden buildings are more pleasant and healthier in terms of their indoor conditions.

” We have implemented several daycare centre projects in collaboration with OP Real Estate Asset Management in recent years. For both us and OP, it has been important to erect wooden buildings that use renewable electricity for demanding users.

Tommi Sahi, Real Estate Manager  
Pilke Daycare Centres



Daycare centre in Ojahaanpolku, Vantaa



## Indoor climate control with the aid of technology

OP Real Estate Asset Management has piloted continuous indoor air monitoring systems to monitor and manage indoor conditions. The focus is on prevention.

During the life cycle of the properties, there will be needs to repair structures and building technology. Often repair needs can be anticipated, but surprises also occur.

At best, these fault situations are small and inconspicuous events. In that case, the people in charge of maintaining the property will carry out corrective actions without affecting the property users. On the other hand, more unpleasant cases are those where property users notice a problem, but even with a large team of experts the cause cannot be found.

In property management, preventive actions are valuable work. We are constantly looking for new technologies to improve the predictability and prevention of fault situations. Unfortunately, sometimes incidents happen to which even the best professional can't prepare for, despite the technology and knowledge. In the event of a fault situations, actions will be taken immediately and the cause of the problem will be determined.

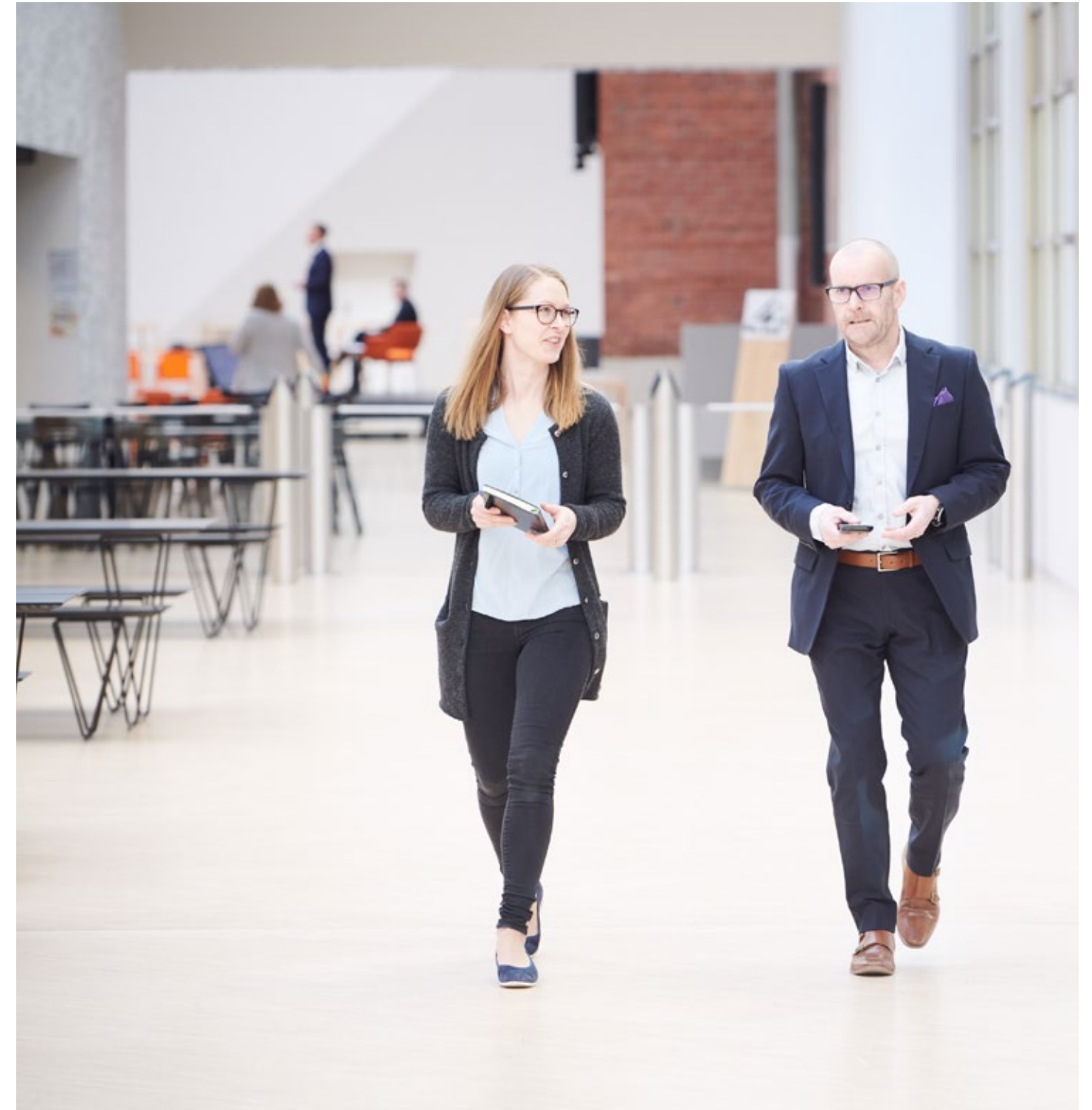
We have been actively trying new technologies related to property maintenance. In May 2019,

we started a pilot of an indoor air measurement system. Continuous monitoring of indoor air conditions is one of the most effective ways of preventing indoor air problems. The pilot aimed to improve user satisfaction with the indoor air quality of the property, and at the same time to optimize the indoor air conditions.

The pilot period, which lasted almost a year, has brought benefits to property maintenance. Among other things, the building automation have been adjusted more optimal in the piloted properties. During the pilot, we have also observed deviations in property conditions that if prolonged, could have caused problems for the building's indoor air conditions. In these situations, the property users themselves had not yet noticed the changed conditions, but the measurement data had indicated for example damage on a device. In this case, the issue has been fixed before the problem is noticed at the property user level.

”

Property users have also been satisfied with the system which shows immediately, whether the rooms are too cold or hot or whether the ventilation is working as planned.



# Figures

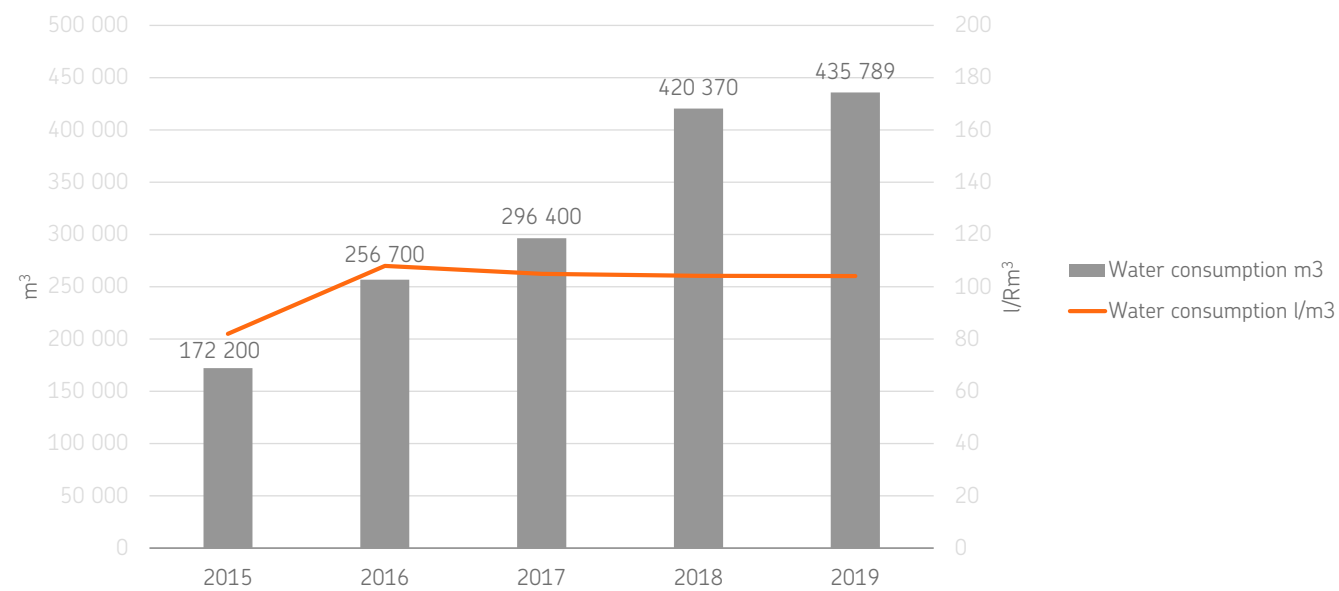


KOy Tuusulan Högberginhaara 10 and KOy Tuusulan Jatke  
One of our largest solar power stations is located on the roofs of these properties: it is rated at 448 kWp.



# Energy consumption of properties

Electricity and heating energy consumption, all properties



Weather-normalized heating energy consumption per m<sup>3</sup> has decreased over the last ten years

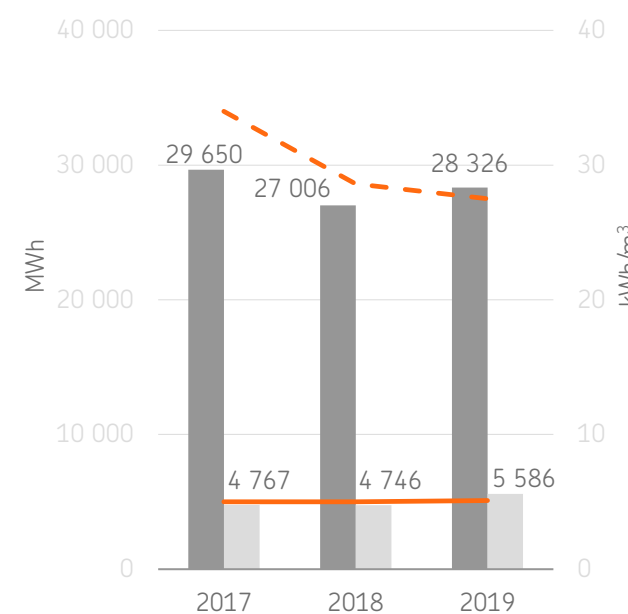
**-32 %**

Energy consumption per m<sup>3</sup> falling

The year-on-year energy consumption per m<sup>3</sup> of our real estate portfolio decreased. One exception was electricity consumption at commercial premises, whose growth was explained by factors such as the electricity required to run geothermal systems.

We engage in long-term efforts to reduce the energy consumption per m<sup>3</sup> of our properties. We have managed to reduce normalised heating energy consumption per m<sup>3</sup> by 32% in the period 2009–2019, while simultaneously increasing our number of properties from 32 to 165.

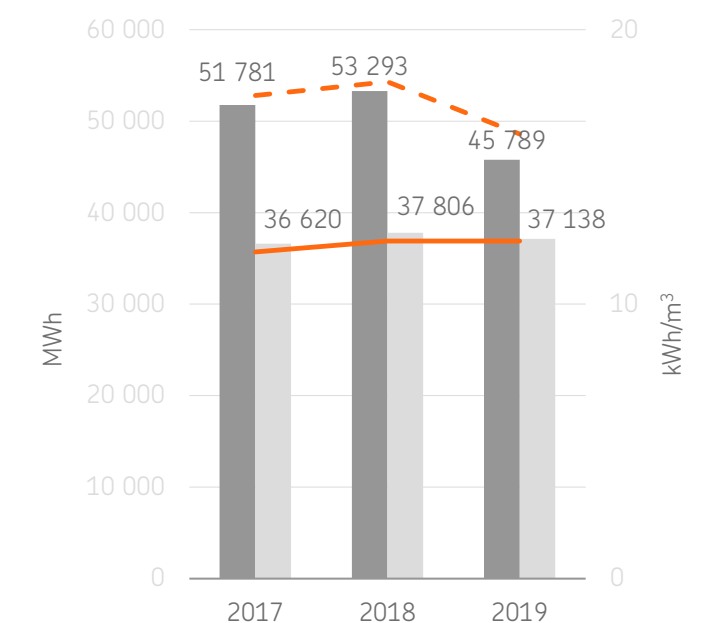
Residential properties



Calculation principles for consumption data

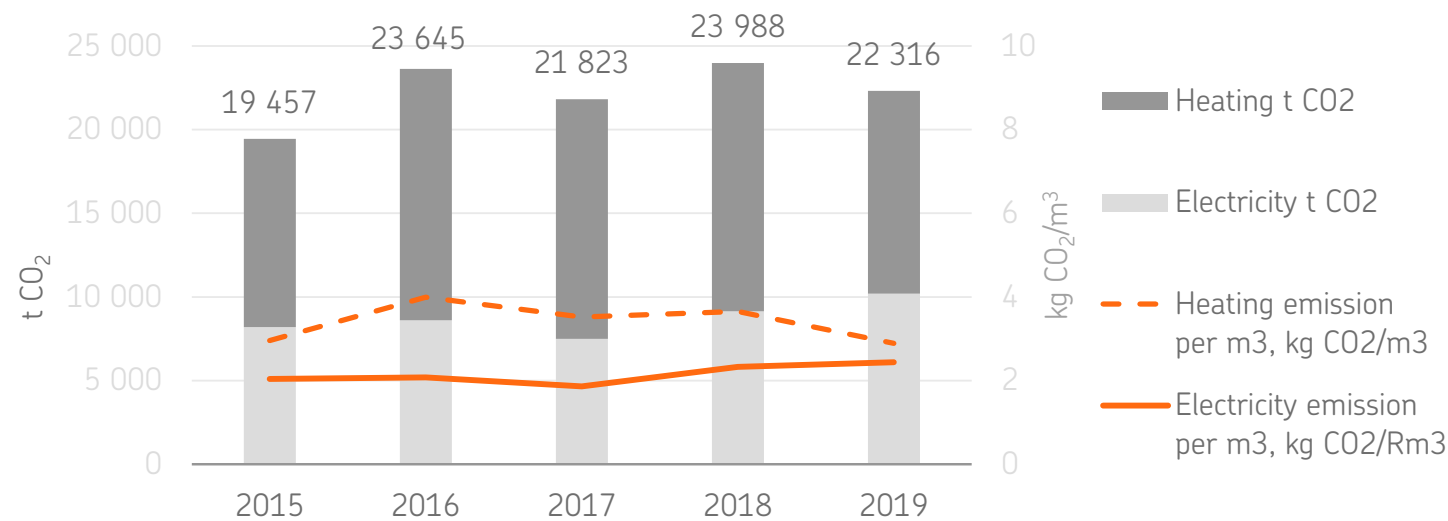
Triple net rent properties where the tenant is responsible for maintenance have not been included in the report. Total consumption (MWh and m<sup>3</sup>) includes the consumption data measured at all of our directly owned properties during our ownership of them. The figures include all properties where we have a holding of more than 50%. 100% of consumption has been included for these. The specific consumption figures include only comparable properties (those that were in our ownership for the entire year without any major renovations).

Commercial properties



# Properties' CO<sub>2</sub> energy emissions and water consumption

## Energy emissions



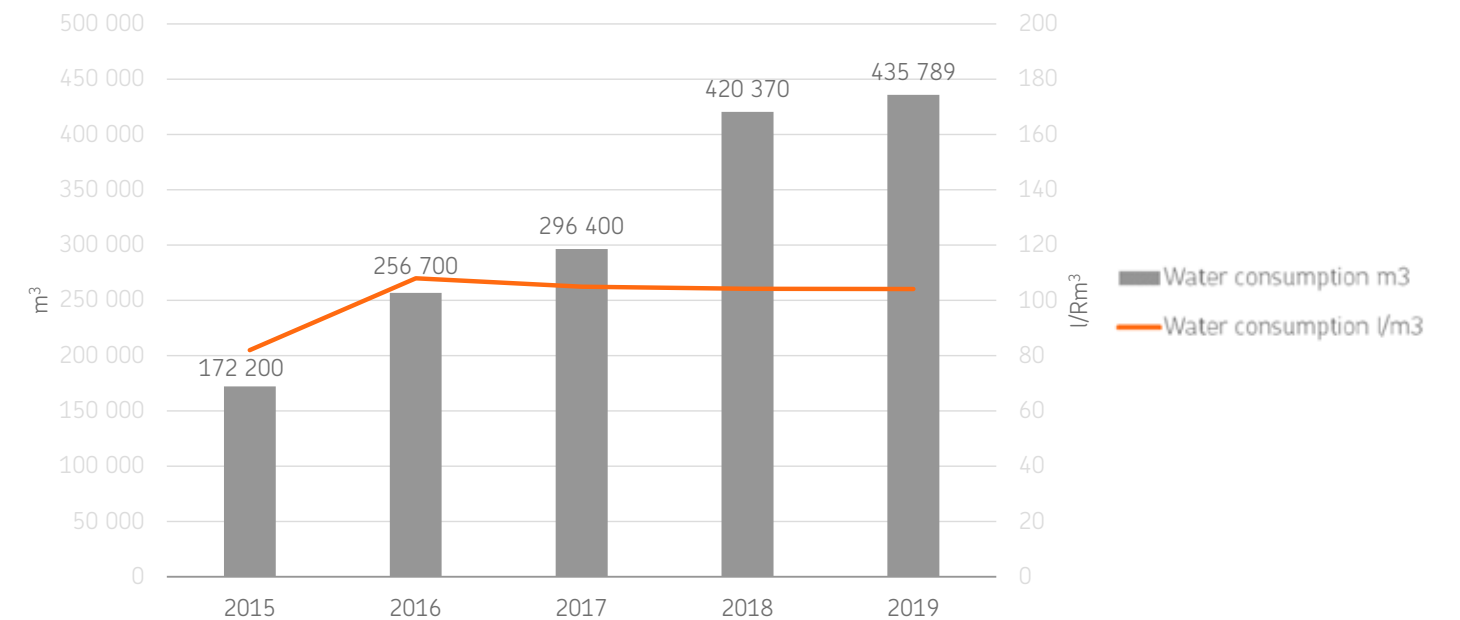
Emissions from a property's energy use are generated by the consumption of electricity and heating energy. We have sought to reduce our emissions, both by reducing consumption and increasing our use of renewable energy. A significant reduction in emissions occurred on 1 January 2020, when we switched to green electricity. We have also taken measures with regard to thermal energy, such as by switching to geothermal heating.

We are also collaborating with construction companies to investigate ways to impact the amount of embodied carbon in property structures.

## Principles for emissions calculations

Until 2017, we used Motiva's CO<sub>2</sub> emission coefficients to calculate our emissions. Since 2018, we have been following Motiva's guidelines to calculate emissions for individual properties. Municipalities have been divided into co-production and separate production areas, depending on the type of production. Municipality-specific CO<sub>2</sub> emission factors have been obtained on the basis of this division, and these have then been used to calculate the carbon footprint of energy consumption.

## Water consumption

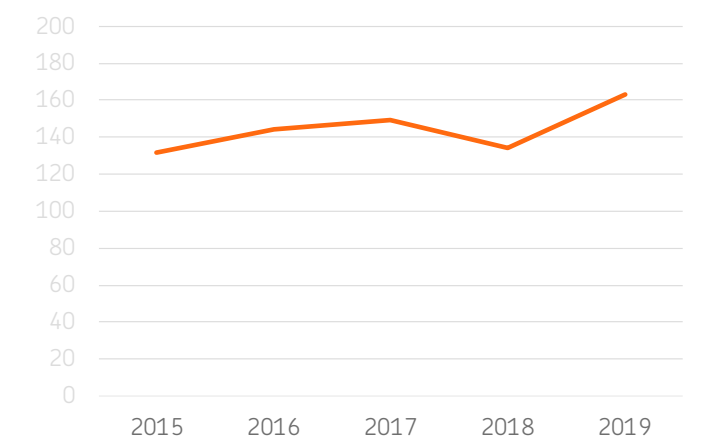


## Water consumption per m<sup>3</sup> is falling

Water consumption per m<sup>3</sup> is falling, even though the number of properties, and thereby also total water consumption, has risen.

Water consumption in residential properties has taken a downswing, thanks to water-saving measures. Water consumption per m<sup>3</sup> in commercial premises fell by 23% between 2018 and 2019. This can be explained not only by the implementation of water-saving measures, but also by the sale of some high-consumption properties.

## Number of properties, gross



## Waste

Our goal in waste management is to increase the recycling and reuse rate. We have, for example created user guidelines for several properties during the year.

WASTE VOLUMES AT RESIDENTIAL PROPERTIES	2015	2016	2017	2018	2019
Total volume of waste, tons	780	954	728	1,481	1,860
Recycled and reused as material	55.1%	49.2%	59.4%	45.6%	49.0%
Other recovery (energy)	20.1%	23.1%	3.48%	2.70%	1.9%
Mixed waste (burned in waste-to-energy plant)	22.6%	27.8%	37.1%	51.7%	49.0%
Number of properties reported on	56	59	60	69	86

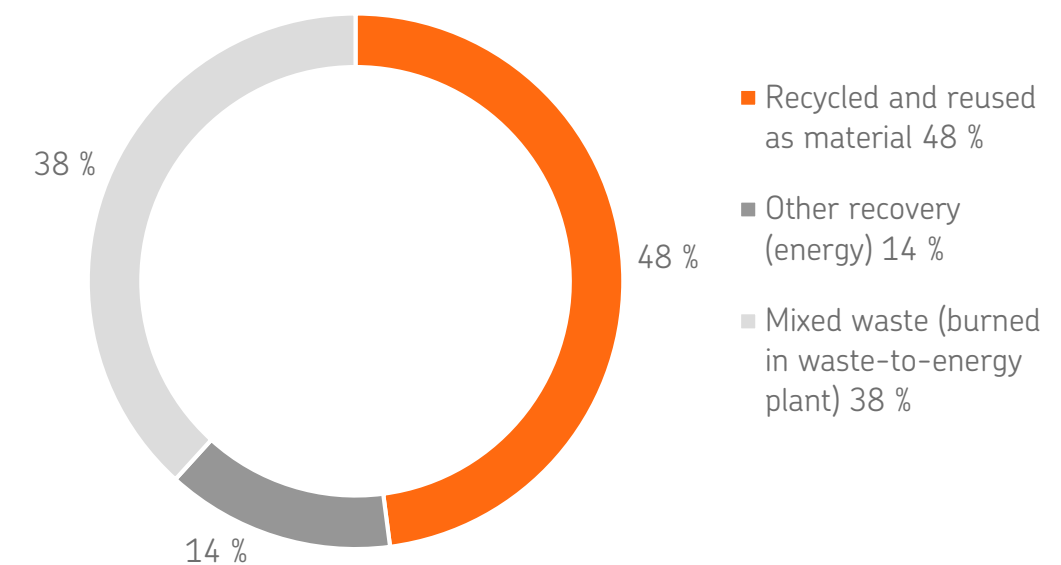
WASTE VOLUMES AT OTHER PROPERTIES	2015	2016	2017	2018	2019
Total volume of waste, tons	1,940	1,830	1,490	1,700	1,530
Recycled and reused as material	48.9%	42.6%	41.2%	44.0%	46.6%
Other recovery (energy)	31.0%	31.9%	31.5%	31.6%	28.25%
Mixed waste (burned in waste-to-energy plant)	20.0%	23.1%	26.3%	24.1%	25.07%
Number of properties reported on	58	58	54	53	44

Lassila & Tikanoja Oyj is our nationwide partner in waste management.

We have developed our waste reporting on the basis of the 2018 data for our properties. We have collected waste data from waste management companies that handle waste management at more than two of our properties. This has improved data coverage and also explains why the recycling rate has fallen.

Generally speaking, the recycling rate has improved at residential properties as a result of plastic collection. Data is available for 91% of our residential properties.

Waste recycling and recovery, all properties



## Construction waste

The EU Waste Directive requires 70% of construction waste to be reused as material by 2020. In our construction projects, we have required construction sites to supply a waste management plan when the site opens. We also collect data about waste volumes when construction sites close.

Construction waste	2017	2018	2019
Number of projects completed	21 projects	15 projects	29 projects
Total volume of waste from projects	3,340 t (20 projects)	2,690 t (14 projects)	3,836 t (25 projects)

## Environmental certificates

Our investment decisions include an analysis of the property's environmental certification. We always certify our developments and renovations whenever the nature of the site and the financiers allow. Even if there are no grounds for certifying the property, we will still apply the principles we have learnt from certifications in our projects.

There are environmental certificates for new constructions and for the use phase. LEED and BREEAM are the most common and established environmental certificates in Finland. WELL certification, which assesses users' well-being in a property, is also gaining a foothold.

Environmental certification is an indication that a building's construction or maintenance takes certain environmental principles into account, such as energy efficiency, waste management and renewable energy.

PROPERTY	CERTIFICATE	RATING
Koy Avia Line 3	LEED v3 CS	Platinum
Koy Aitio Business Park Vivaldi	BREEAM	Excellent
Koy Vallila AKO, Helsinki	BREEAM	Very good
Koy Aitio Business Park Verdi	BREEAM	Excellent
Koy Lönnrotinkatu 11, Helsinki	LEED v3 CS	Platinum
Koy Helsingin Puutarhurinkuja 2	LEED v3 NC	Gold
Koy Koskitammi, Tampere	LEED v3 CS	Gold
Koy Oulun Kiilakivi	LEED v3 CS	Gold
Koy Espoon Niittykummun metrokeskus	LEED v3 CS	Gold
Koy Kuopion Isabella	LEED v3 CS	Platinum
Koy Alberga, talo D	BREEAM	Very good
Koy Alberga, talo E	BREEAM	Very good
KOy Turun Joukahaisenkatu 9	LEED v3 CS	Platinum



KOy Koskitammi, Tampere

## A summary of our environmental programme's objectives and achievements

AREA	OBJECTIVE	ACTUALISED 2015	ACTUALISED 2016	ACTUALISED 2017	ACTUALISED 2018	ACTUALISED 2019
PURCHASE	An energy audit of potential acquisitions in conjunction with the purchase	<ul style="list-style-type: none"> <li>Random assessments implemented</li> </ul>	<ul style="list-style-type: none"> <li>Procedure has been introduced systematically</li> </ul>	<ul style="list-style-type: none"> <li>Assessments of acquired properties performed</li> </ul>	<ul style="list-style-type: none"> <li>Assessments of acquired properties performed</li> </ul>	<ul style="list-style-type: none"> <li>Assessments of acquired properties performed</li> </ul>
CONSTRUCTION	Monitoring of waste recycling on construction sites: <ul style="list-style-type: none"> <li>Contractors must supply a recycling plan</li> <li>Waste volumes are reported annually</li> </ul>	<ul style="list-style-type: none"> <li>Recycling is the contractor's responsibility</li> </ul>	<ul style="list-style-type: none"> <li>Construction site recycling plans supplied</li> <li>Volume of waste: 2,040 tons (26 projects)</li> </ul>	<ul style="list-style-type: none"> <li>Plans were received for 81% of projects (a total of 21 completed projects)</li> <li>Volume of waste: 3,340 t (20 projects)</li> </ul>	<ul style="list-style-type: none"> <li>Plans were received for 93% of projects (a total of 15 projects)</li> <li>Volume of waste: 2,690 t (14 projects)</li> </ul>	<ul style="list-style-type: none"> <li>Plans were received for 93% of projects (a total of 29 projects)</li> <li>Volume of waste: 3,836 t (25 projects)</li> </ul>
CONSTRUCTION	Environmental certificates (commercial premises projects): <ul style="list-style-type: none"> <li>investment decision involves an analysis and decision on implementation</li> </ul>	<ul style="list-style-type: none"> <li>Random analyses implemented</li> </ul>	<ul style="list-style-type: none"> <li>Analysis procedure introduced</li> </ul>	<ul style="list-style-type: none"> <li>Nine certifications (seven held at the end of the year)</li> </ul>	<ul style="list-style-type: none"> <li>Two LEED certificates in 2018</li> </ul>	<ul style="list-style-type: none"> <li>No certified properties in 2019</li> </ul>
CONSTRUCTION	Renewable energy feasibility analysis for new construction and renovation projects.	<ul style="list-style-type: none"> <li>Random analyses implemented</li> </ul>	<ul style="list-style-type: none"> <li>Analysis procedure introduced</li> </ul>	<ul style="list-style-type: none"> <li>Solar power plant at four properties, three in the pipeline</li> <li>Geothermal heating at one property</li> </ul>	<ul style="list-style-type: none"> <li>Eight properties equipped with solar power plants</li> <li>Geothermal heating at seven properties</li> </ul>	<ul style="list-style-type: none"> <li>A total of 18 properties equipped with solar power plants</li> <li>Geothermal heating at 16 properties</li> </ul>
CONSTRUCTION	Promoting the circular economy in construction					<ul style="list-style-type: none"> <li>Joining the Green Deal initiative. Demolition analyses launched</li> </ul>
MAINTENANCE	Calculating the electricity consumption per m <sup>3</sup> : <ul style="list-style-type: none"> <li>VAETS/TETS target 2025: -7.5% (compared to 2015)</li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 5.8 kWh/m<sup>3</sup></li> <li>Other properties: 11.3 kWh/m<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 5.0 kWh/m<sup>3</sup></li> <li>Other properties: 12.2 kWh/Rm<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 5.1 kWh/Rm<sup>3</sup></li> <li>Other properties: 11.9 kWh/Rm<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 5.3 kWh/Rm<sup>3</sup></li> <li>Other properties: 12.3 kWh/Rm<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 5.1 kWh/Rm<sup>3</sup></li> <li>Other properties: 12.3 kWh/Rm<sup>3</sup></li> </ul>
MAINTENANCE	Calculating the heating energy consumption per m <sup>3</sup> : <ul style="list-style-type: none"> <li>VAETS/TETS target 2025: -7.5% (compared to 2015)</li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 33.1 kWh/m<sup>3</sup></li> <li>Other properties: 19.4 kWh/m<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 35.0 kWh/Rm<sup>3</sup></li> <li>Other properties: 19.6 kWh/Rm<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 34.1 kWh/Rm<sup>3</sup></li> <li>Other properties: 17.6 kWh/Rm<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 29.9 kWh/Rm<sup>3</sup></li> <li>Other properties: 17.9 kWh/Rm<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Residential properties: 27.5 kWh/Rm<sup>3</sup></li> <li>Other properties: 16.2 kWh/Rm<sup>3</sup></li> </ul>
MAINTENANCE	Carbon-neutral real estate portfolio					<ul style="list-style-type: none"> <li>Drawing up a roadmap (2020 roadmap implementation)</li> </ul>

# Contact information & appendix

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## Attachments

OP-Rental Yield (special common fund)  
OP-Public Services Real Estate Fund (special common fund)  
OP-Forest Owner Fund (special common fund)  
OP Toimitilakiinteistö Ky  
Real Estate Fund of Funds V Ky





# Appendix: Fund-specific reports



KOy Lappeenrannan Torilinna  
As Oy Lappeenrannan Loiste, partially owned



# OP-Rental Yield (special common fund)



Koy Aitio Business Park Vivaldi, Helsinki

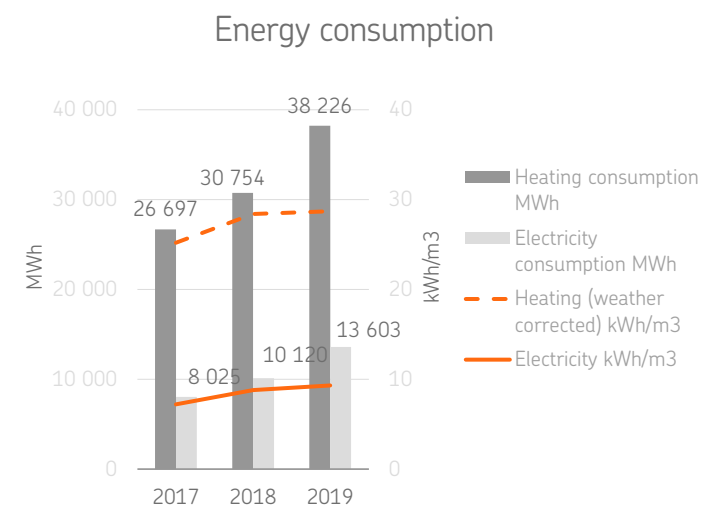
The fund invests in residential and commercial properties, and their construction. The residential properties are located in 25 municipalities. About half are in the Helsinki Metropolitan Area, and the rest are in university cities and growth centres.

How we enhance sustainability within the fund:

- During construction, the fund has its own supervisor at each construction site, and we actively collaborate to minimise our environmental impact. For example, we require a waste management plan, and data on waste volumes must be submitted after each project
- We choose properties in central locations to promote sustainable transport. Properties offer car-sharing and have charging stations for electrical cars.
- The fund is currently building a wooden apartment building in Tampere, and already has completed wooden buildings in Turku and Helsinki. We use wood construction and careful material choices to reduce our carbon footprint and promote healthy indoor air.
- We encourage the occupants of our real estate properties to be more environmentally conscious by providing them with good recycling options and encouraging them to monitor their water and electricity consumption. We participate annually in Motiva's Energy Awareness Week.
- We install water-saving taps in our new buildings and have tested the use of faucet

aerators in two of our residential buildings.

- We monitor the amount of waste that our buildings generate, and our goal is to increase our recycling rate.
- Energy efficiency and the use of renewable energy are among our most important goals. OP-Rental Yield is currently planning to implement its first geothermal heating project for a residential building.
- In customer satisfaction surveys, the total satisfaction of our residents, including their satisfaction with their residential buildings and services, is at the highest level in KTI's reference data. Our residents are also very likely to recommend their lessor to the people they know



The fund's real estate portfolio grew considerably during 2017–2019, which also led to an increase in energy consumption.

Figures	2019
Number of apartments	5,400
Area of residential buildings, m <sup>2</sup>	277,000
Number of homes under construction	942
Utilisation rate of residential properties, %	97.5
Number of commercial properties	24
Area of commercial properties, m <sup>2</sup>	144,000
Utilisation rate of commercial properties, %	94
Value of the fund, EUR billion	1.46
Employment, man-years	1,090
Tax footprint, EUR million	13,4
Environmental certificates	at 8 properties

Carbon footprint 2019  
10 000 t CO<sub>2</sub>

# OP-Public Services Real Estate Fund (special common fund)

OP-Public Services Real Estate offers investors the opportunity to diversify their investments over a variety of service properties – daycares, schools, care homes, assisted living residences, multipurpose properties and public administration agencies. The fund is often also the property developer. At the beginning of 2020, the OP-Public Services Real Estate fund had a total of 40 completed properties and five under construction.

How we enhance sustainability within the fund:

- During construction, the fund has its own supervisor at each construction site, and we actively collaborate to minimise our environmental impact. For example, we require a waste management plan, and data on waste volumes must be submitted after each project has ended.
- The fund has several properties that produce renewable energy. Nine of the buildings included in the fund are equipped with a geothermal heating, one with solar panels, and one with an air-to-water heat pump.
- The use of wood in construction helps to

reduce climate emissions, sequester carbon, and reduce the use of natural resources. 70% of the fund's buildings are made of wood.

- The fund has five property conversions. For example, As Oy Helsingin Melkonkatu 22 was converted from an office building into a care home and residential property. This year, two more building conversions will be completed in Helsinki: a nursing home in Oulunkylä district and a hotel in Konepaja district.

Figures	2019
Number of properties	40
Number of wooden buildings, of which log buildings	70% (28 properties) 43% (12 properties)
Stone buildings	30% (12 properties)
Value of the fund, EUR million	212
Tax footprint, EUR million	0.4
Tax footprint, EUR million	1,030

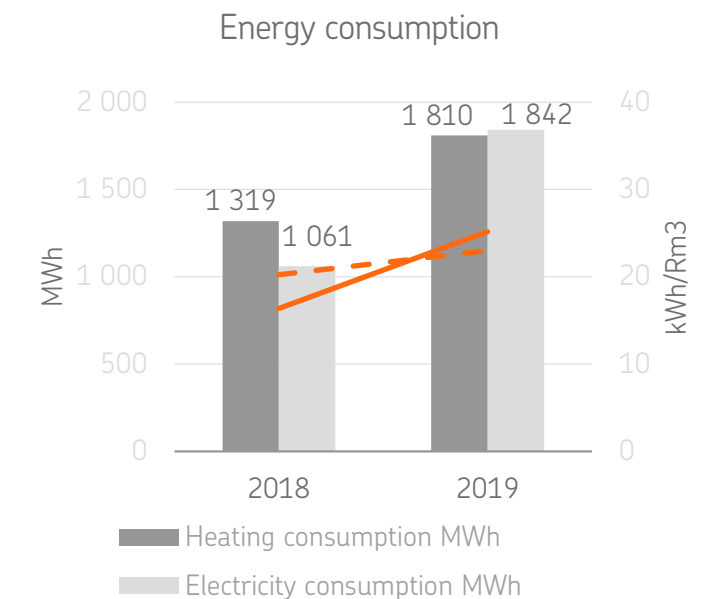


Day care center, Iisalmi

Carbon footprint 2019  
**800 t CO<sub>2</sub>**



Here “conversion” means that a building that has reached the end of its original lifecycle will be given a new life by renovating it for a new purpose. The carbon footprint of these projects is smaller than in new construction projects, as the process requires a significantly smaller amount of construction materials.



The fund's real estate portfolio grew considerably during 2018–2019, which also led to an increase in energy consumption.

# OP-Forest Owner Fund (special common fund)

In 2019, we managed more than 80,000 hectares of forest estates. We are the sixth largest forest owner in Finland.

## Forests as carbon sinks

The forest property we manage served as a carbon sink in 2019. A forest can act as a carbon sink when the losses caused by logging do not exceed annual growth. Our wood resources grew and became more effective as carbon sinks, as their annual growth was greater than the losses.



Stream area site, protected under the Forest Act (§10)

Whenever we conduct new logging activities, we cultivate the area with the appropriate tree species, and we tend to our sapling stands in the manner required by the standards of good forestry management. From the perspective of carbon sink, correctly timed logging and forest management activities are crucial for the growth of tree stands.

## Use of forests for wind turbines and recreation

Increasing renewable energy production is a vitally important factor for society. The OP-Forest Owner Fund is involved in several wind power projects. In 2019, four projects were launched to build wind farms on lands owned by the fund, and new sites are constantly being surveyed.

The OP-Forest Owner Fund is also a responsible social actor. Hunting remains an important recreational activity in sparsely populated areas and helps foster communal bonding. We want to play our part in supporting these efforts and have signed hunting lease agreements with various hunting associations, so they can hunt in the forests owned by the fund. In 2019, a total of 112 new agreements were signed.

**100 %**

of our forests are PEFC™ -certified. Approximately 40 % has also FSC® -certification

Figures	2019
Forest, hectares	80,400
Change in area, % (compared to 2018)	+ 25
Number of forest estates	616
PEFC certificate, % of forests	100
FSC certificate, % of forests	approx. 40
Number of wind power projects	4 launched
Number of hunting lease agreements	approx. 370
Protected forest, hectares	approx. 1,600
Value of the fund, EUR million	195

## FSC certificate

Our FSC-certified forests are audited annually by an independent external inspector. The audits ensure that the certification criteria are being realised during forest management. The audit checks things such as retention tree groups for logging and protective areas around waterways.

\*License number FSC C-109750

# OP Toimitilakiinteistö Ky

OP Toimitilakiinteistö Ky offers investors the opportunity to invest in a very diversified portfolio of Finnish commercial properties that generate high cash flow.

We employ a wide variety of means to enhance sustainability at the fund's properties. An energy audit has been carried out at all of the fund's properties to ensure that building technology is being used properly and working as planned. The audits identify any potential for energy savings at

the properties, and assess the payback period of investments.

All properties engage in energy monitoring, which provides up-to-date consumption data and comparison with similar properties. The monitoring covers electricity, water and heating energy consumption. A ten-year energy performance certificate has also been acquired for all of the fund's properties. The potential for introducing new, more eco-efficient technology has also been investigated.

Major energy projects have been implemented at three of the fund's properties:

- Solar power plant at the KOy Högberinhaara logistics property (annual production 145,000 kWh)
- KOy STC Pressi's solar power plant (annual production 71,000 kWh), electric car charging stations funded by tenant, and heating energy generated by air-to-water heat pumps
- KOy Lahden Makasiinikatu geothermal heating and solar power plant (annual production 250,000 kWh)

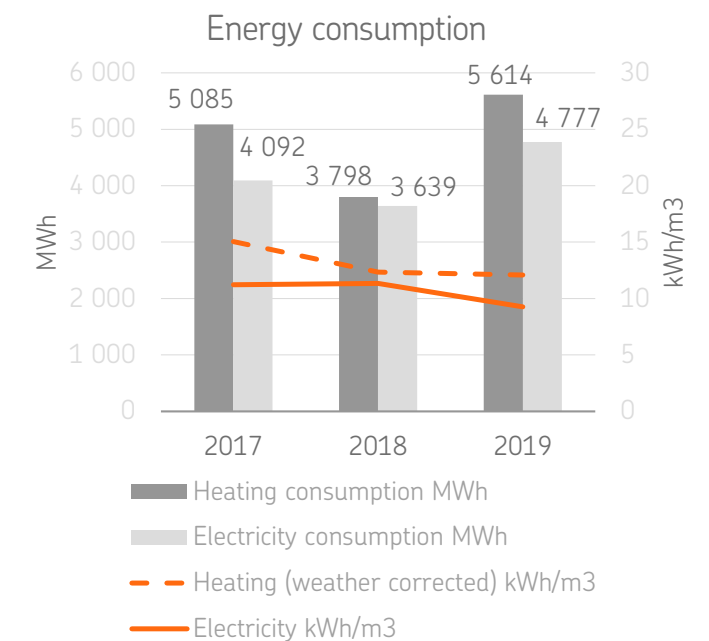
The fund has also commissioned seven new solar panel installations in spring 2020.

Figures	2019
Number of commercial properties	26
Area of commercial properties, m <sup>2</sup>	153,300
Lease agreements	57
Utilisation rate, %	94.7
Value of the fund, EUR million	205
Employment, man-years	300



Koy Vantaan Vanhan Porvoontien Jatke, Vantaa

Carbon footprint 2019  
**2200 t CO<sub>2</sub>**



# Real Estate Fund of Funds V Ky

The Real Estate Fund of Funds V Ky (REFoF V) was established in 2016 with a term of ten years. The fund invests in real estate and debt funds in Europe and offers investors a highly diversified range of investment opportunities.

The fund has invested in eight underlying investee funds, of which four are real estate funds and four real estate debt funds. Some of the underlying investee funds are still building up their portfolios, while others are already actively realising their first investments. Currently, the underlying investee funds have about 180 investments in the form of equity or debt.

The properties in the fund's underlying investee funds typically require either modernisation investments or development to begin a new lifecycle. **There is exceptionally good potential to enhance sustainability at this stage of the property lifecycle by making the correct choices.**

All of the underlying investee funds take sustainable investment into consideration in both their investment decisions and portfolio management. OP Real Estate Asset Management influences the responsibility of underlying investee funds through its active investment policy. All of the real estate funds' management companies participate in the real estate sector's annual GRESB reporting.

Value of the fund, EUR million

# 62.4

## An example of an underlying investee fund: BlackRock European Property Fund IV

The European Property Fund IV (EFIV) invests in European real estate units that seek to create value through a variety of development and improvement measures combined with strategically suitable opportunities to develop new sites. The fund manager, BlackRock, is a very large global asset manager. The manager's property team consists of more than 400 people in 27 offices all across the world.

The EFIV manager actively considers sustainable investment in its investment activities. For example, at the property acquisition phase, the manager will go through environmental factors, such as energy efficiency, water consumption and waste recycling. The manager appoints a person – their own Real Assets Sustainability Manager – whose task is to support and promote sustainable investments both in the EFIV fund's investments

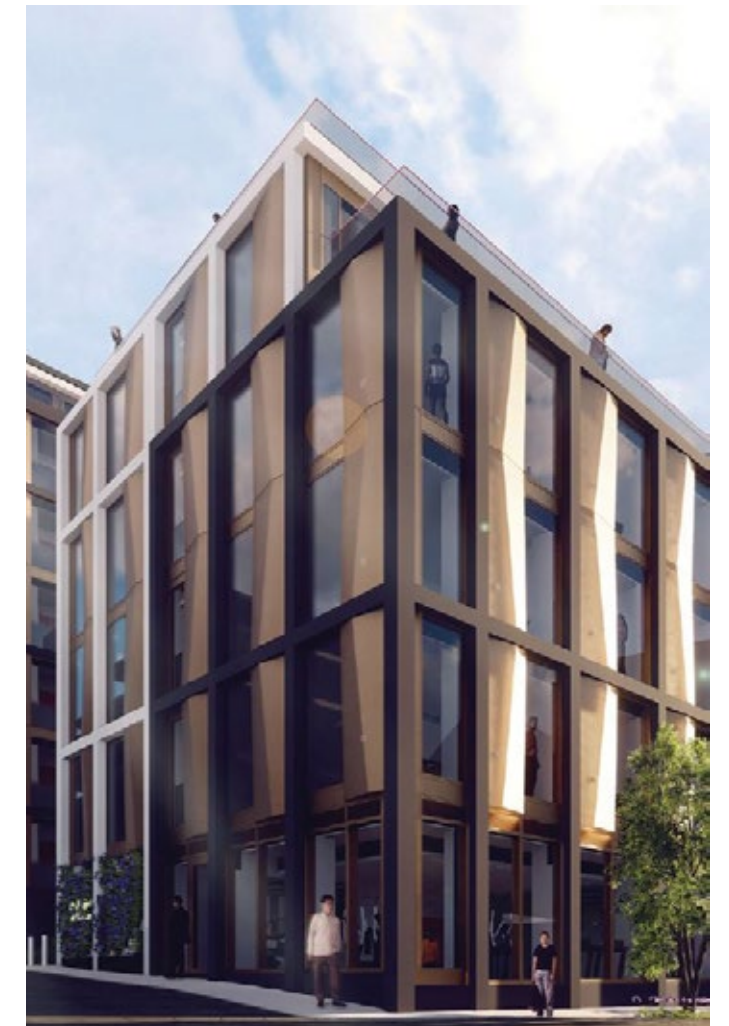
and when developing properties.

BlackRock has actively participated in GRESB reporting since 2011. In 2019, the manager submitted GRESB reports for nine real estate funds and 10 infrastructure funds.

The European Property Fund IV has also participated in GRESB reporting and has received excellent scores. The fund was given 5/5 stars and a score of 87/100. The fund received the most points in its category and was recognised as a "Sector Leader".

The fund seeks to certify both new properties and those that are undergoing considerable improvements. The fund's portfolio consists of 16 properties, of which three have already been certified.

Certified proportion of the fund (calculated from the value of the portfolio)



EFIV developed a student housing project in London. The property was completed in September 2019. The manager negotiated with an external financier to obtain "green" funding for the construction phase. The terms and conditions of the loan include seeking certification with a specific target level (BREEAM "Excellent"), the property's energy efficiency, and that the property should only use renewable energy on completion. Photo supplied by BlackRock

