Logistics and Real Estate

2020

Sustainable and Future-Proof

bulwiengesa Berlin Hyp BREMER GARBE. Industrial Real Estate savills

Logistics and Real Estate 2020

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“Sustainability aspects play an important role in the planning and realization of logistics real estate.“

Michael Dufhues,
Vorstand, Bremer AG

“Environmental concerns and digitalization have been high on the corporate agenda for some time now. In the wake of the pandemic, it would be dangerous to neglect sustainability goals.“

Tobias Kassner,
Head of Research, GARBE Industrial Real Estate GmbH

“Furthermore, energy production „on-site“ can become a common product. This includes photovoltaic systems, wind power and cogeneration units as well as heat pumps“

Bertrand Ehm,
Director Industrial Investment, Savills Immobilien Beratungs-GmbH

“The requirements in the field of sustainable real estate are constantly increasing due to legal regulations and the rising expectations of society and customers.“

Assem El Alami,
Leiter Immobilienfinanzierung, Berlin Hyp AG

Preface

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Logistics Real Estate—Essential Sustainability

The year 2020 caught us all off guard. No one could have known what far-reaching changes would await us this year. And so, people across the globe were unprepared for the coronavirus pandemic. While the world was still a bit shock-frozen during the first quarter of this year, the question now is: Which way forward? Will as many people be affected as predicted by the bulk of the scientific community? And what sort of consequences will the development have for the various societies and their national economies? Evidence suggests that the virus—not least due to radically different societal approaches—has developed a far more calamitous dynamic in some countries than in others. Brazil and the United States of America are among the countries particularly hard hit. But given a surge in new cases, even experts in Germany have lately warned of a second wave.

The situation is serious and it has demonstrated how deeply networked our global supply chains are and how they interact. Supply bottlenecks for certain goods, congestions at border crossings, a drop in pedestrian footfall in inner cities, working from home for many, redundancies for others—all of these developments have far-reaching consequences for the retail sector, logistics, the manufacturing industry and ultimately for national economies around the globe. But is a pandemic the only thing that could trigger global upheavals of this magnitude? Or can we think of other threats that will require our joint effort to defuse? One of the chief threats that comes to mind is climate change.

For this reason, this latest edition of the survey will be dedicated to the subject of sustainability in the logistics real estate market. It will show you the options to structure one of the most essential asset classes in more sustainable ways and thereby to combat climate change. In what ways can logistics assets and the players of the real estate industry contribute to the minimisation of CO_2 emissions? How are the sustainability issues in the industry received or already being implemented? These are the questions that the competence centre for logistics and real estate addressed this year. So, the purpose of this survey is to provide initial answers even though the discussion is anything but concluded.

We hope that you enjoy the read and that you will let us hear from you with any feedback you might care to share.

Your Logistics and Real Estate Competence Centre

Survey Partners

The partners of this survey series are major players in real estate financing, in the developer business, in property development, in investment consultancy, and in strategic analysis and advisory services in the "logistics and real estate" sector. Within the framework of what is already the sixth edition of the "Logistics and Real Estate" survey, these partners bring you an in-depth overview of the latest trends and contexts in this segment. As a joint competence centre, they are in a position to provide a collective angle on the subject, a perspective that is used to make forward-looking and strategically balanced decisions.

Berlin Hyp

Berlin Hyp is a mortgage bank specialising in large scale real estate financing for professional investors and housing companies. For these, it develops bespoke financing solutions. As a company associated with Germany's savings banks, Berlin Hyp has moreover access to a comprehensive spectrum of products and services. It has played a pioneering role by issuing Germany's first green mortgage bond and by promoting the financing of sustainable real estate. Its clear-cut focus, 150 years of experience and its ability to play an active role in the digital transformation of the real estate industry define Berlin Hyp as a leading German real estate and mortgage credit bank.

In Germany, BREMER AG counts among the leading companies in the field of turnkey construction using precast reinforced concrete elements that are planned and manufactured in proprietary plants in Paderborn, the company's principal place of business, and in Leipzig. The majority of these precast reinforced concrete elements are based on proprietary designs. Founded in 1947 and active across Europe today, the family-owned business maintains branches in Stuttgart, Leipzig, Ingolstadt, Hamburg, Bochum, Berlin-Brandenburg, Bremen in Germany, as well as in Krakow and Poznań in Poland. As general contractor, BREMER raises buildings of any performance envelope requested and specified by its key account clients. Its spectrum of deliverables includes office schemes, home furnishing stores, refrigerated warehouses, logistics buildings, light industrial buildings and hypermarkets. What our key account customers appreciate is the top quality, the professional execution, the cost security and adherence to schedule we deliver. We are by their side every step of the way, from the property development to the production in proprietary plants, and all the way to the turn-key construction and service options for the building in operation.

Based in Hamburg, GARBE Industrial Real Estate GmbH is one of Germany's leading companies selling and managing logistics real estate and multi-let properties of the Unternehmensimmobilien type. For more than 30 years, the company has counted among the most important collaboration partners for transport and logistics service providers, the trade sector and the manufacturing industry. GARBE Industrial Real Estate GmbH develops, buys or sells, lets, manages and finances high-end re-lettable commercial properties in attractive transport nodes and industrial locations inside and outside Germany. At the moment, GARBE Industrial Real Estate GmbH has 158 assets in a combined value of 3.5 billion euros under management that extend over around 4.4 million square metres of lettable area.

bulwiengesa is one of the major independent analytics firms for the real estate industry in Continental Europe. For more than 30 years, bulwiengesa has supported its partners and clients in real estate industry issues as well as location and market analyses, providing detailed data services, strategic consultancy and bespoke expert opinions. The company's RIWIS online information system delivers richly informative microdata, time series, forecasts and transaction data. The data of bulwiengesa are used by Deutsche Bundesbank for the European Central Bank (ECB), the Bank for International Settlements (BIS) and the OECD, among many other clients.

Based and listed in London, Savills is one the leading real estate service providers active worldwide. Founded in 1855, the company looks back on a long history of tremendous growth. Rather than following trends, Savills sets its own, and today has more than 600 offices and partners in the Americas, Europe, Africa, Asia Pacific and the Middle East, and employs over 39,000 professionals.In Germany, Savills employs a staff of around 200 professionals at 7 offices in the country's leading real estate locations—Berlin, Cologne, Düsseldorf, Frankfurt, Hamburg, Munich and Stuttgart.


Source: GARBE Industrial Real Estate GmbH

Aerial view of a logistics center in Nettetal

Chapter 01 /

Sustainable and Future-Proof

1.1 What Does Sustainability Mean?

Sustainability as Key to a Future Worth Living for

The subject of sustainability has attained enormous significance both in business and in society in general. The need to deflect the adverse consequences of climate change and deepening environmentally damage has come to be seen as one of the key challenges in the short and long term. Finding ways to restructure the economy and society to become sustainable is of the essence to conserve the environment and to preserve a world worth living in, both for this generation and for future generations. Due to the high degree of complexity that defines the interaction between humankind and nature, it is obvious that both the economy and society at large are called upon to help achieve this objective.

To this end, the concept of sustainability requires no general definition. Rather, sustainability is often discussed on the basis of the three-pillar model of sustainable development. The three dimensions at issue are essentially the environmental, economic and social sustainability. According to this concept, a sustainable development can only be achieved through the simultaneous implementation of all three objectives. One focus of environmental sustainability is the reduction of the pollution output caused by anthropogenic activities.

-55%

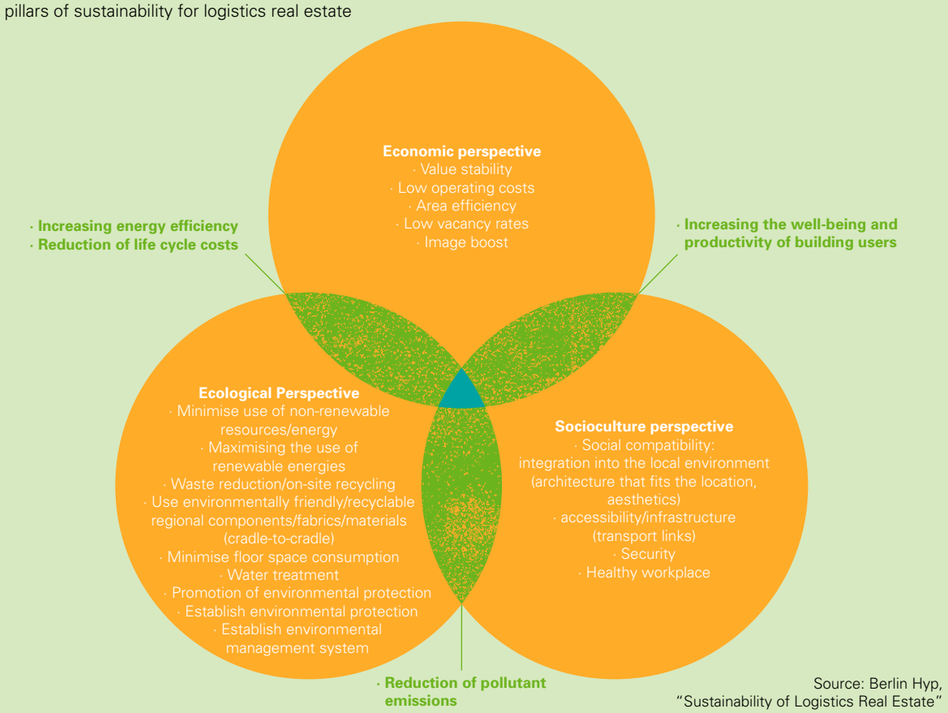
Greenhouse Gas Emissions in Germany by 2030 compared to 1990

In the Decades ahead, Sustainability will be One of the Key Objectives

Given the urgent need for action, policymakers in many countries have begun to embrace climate protection efforts. The objective to keep global warming to less than 2°C, as stipulated in the Paris Agreement, has triggered an ambitious climate protection policy in Germany. Analogously, programs such as the European Green Deal have been initiated as roadmap for a carbon-neutral economy on the international level.

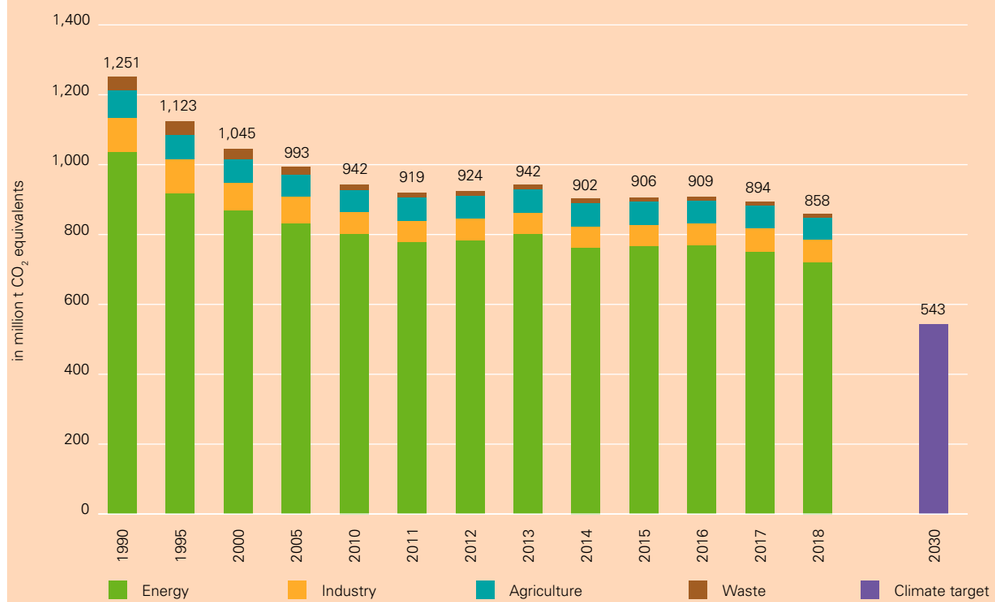
In Germany, this takes the form of the Federal Climate Change Act (KSG), e.g., which sets binding greenhouse gas reduction targets for the years 2020 through 2030 by dictating permissible annual emission volumes. The idea is to reduce German greenhouse gas emissions by at least 55% compared to 1990 before 2030. By 2018, emissions had already been lowered by 31%. The target for 2030 is a maximum output of 543 million tons of carbon dioxide equivalent by all economic sectors combined, according to the mission statement. For the building sector, an ambitious 40% reduction of CO_2 equivalents between 2020 and 2030 is required by law.

1.1.1
Three pillars of sustainability for logistics real estate



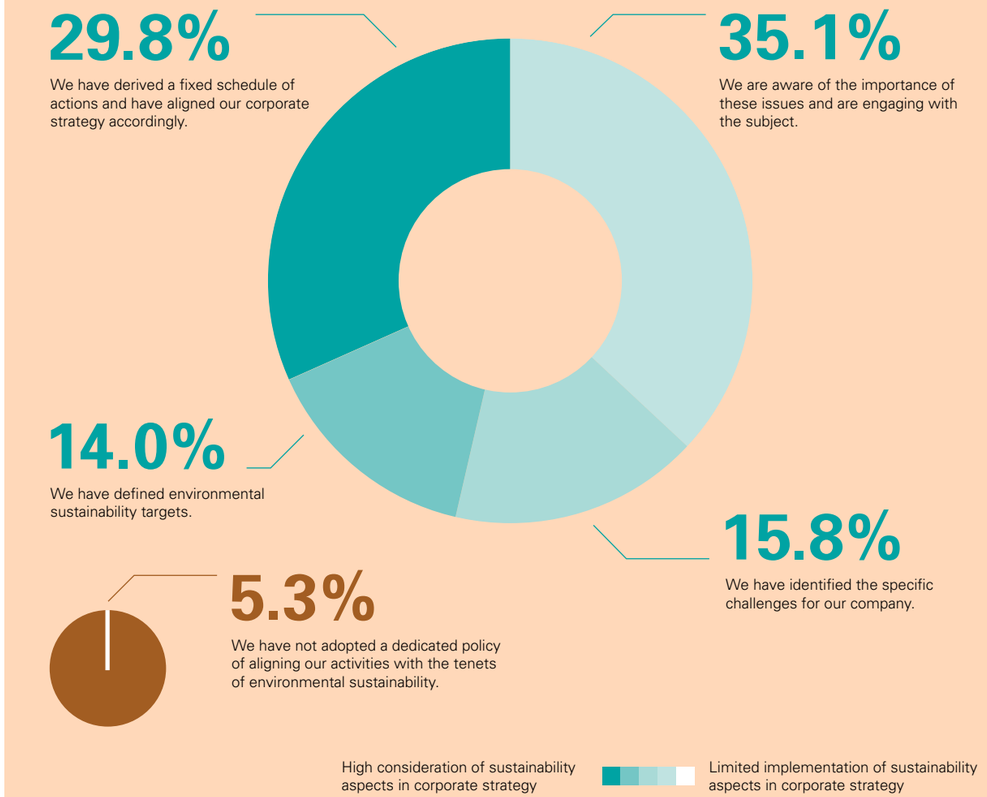
Source: Berlin Hyp, "Sustainability of Logistics Real Estate"

1.1.2
Development of greenhouse gas emissions in Germany by source and sink groups

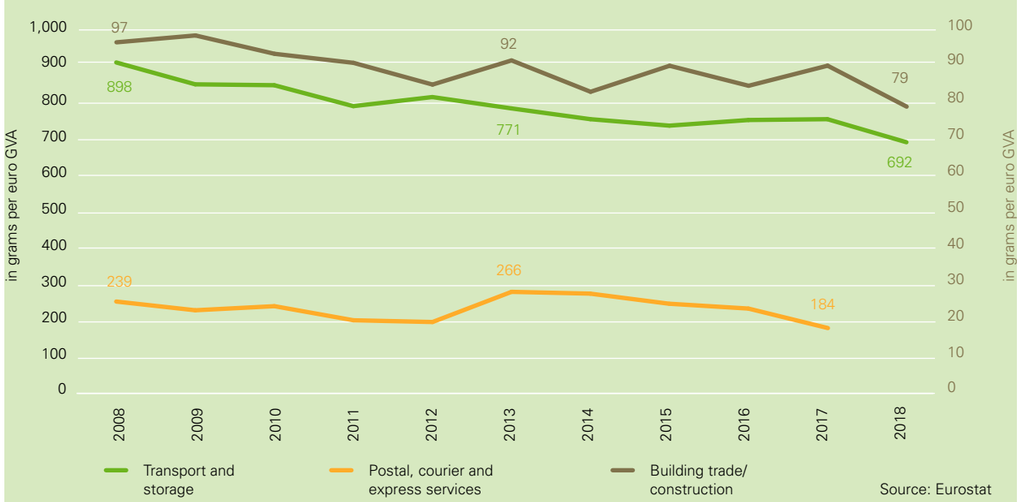


Source: German Environment Agency (UBA), Nationale Trendtabellen für die deutsche Berichterstattung atmosphärischer Emissionen, 2020

1.1.3
Sustainability as corporate strategy



1.1.4
Greenhouse gases in CO_2 equivalents relative to gross value added (GVA) in Germany



Sustainability also Concerns the Real Estate Industry

This survey focuses on the question to what extent logistics real estate can contribute to an environmentally sustainable development. What makes the real estate sector, being one of Germany's most prominent industries, accountable in this context is above all the resource depletion it causes through construction and operation.

For the same reason, it has tremendous potential for optimisation along the lines of environmental sustainability. Sustainable properties—often misleadingly referred to as "green buildings"—meet the objectives of the three-pillar model. The term "green building" would be misleading insofar as it is limited to the ecological aspect of the more comprehensive concept of sustainability. As far as environmental sustainability goes, this means that the buildings are characterised by high resource-efficiency in regard to energy, water and materials, reducing their harmful impact on the environment. Prerequisite for the greatest possible impact is that sustainability refers to every phase of the property's life cycle. A look at environmentally damaging emissions shows that the construction industry has rolled back its greenhouse gas emissions for every euro of gross value added in recent years. But, of course, there is further scope for continuous reductions. Against the background of the impending CO_2 pricing for heat, the emissions generated in this building sector are becoming increasingly relevant from an economic point of view, too.

Implementing Sustainability Requires Commitment Both by Consumers and Businesses

An important factor for the success of sustainability concepts on the company level is the definitive integration of the targets in the respective principles and guidelines. It is also necessary to monitor the target achievement to ensure that the outcome of the steps taken can be evaluated. Adopting an ESG (environmental, social, governance) framework can play an important role in this context. Application of its criteria helps to establish standards that integrate sustainability aspects into investments. Its environmental criteria, for instance, define to what extent a given company has adopted a responsible approach to natural resources.

To capture the sentiment among stakeholders in the logistics real estate industry in regard to the sustainability issue, we conducted a survey of the relevant stakeholder groups. Within the panel of the logistics real estate experts, almost 30% of the respondents stated that their companies already defined a binding schedule of actions to implement environmental sustainability. Formally anchoring a company's environmental agenda can be seen as a trend-setting step toward sustainable action. Among developers and investors, more than 50% of the respondents said their corporate mission statements include such a schedule of actions.

The majority of the lenders stated that their general corporate strategy does not yet include any specific sustainability guidance. But that does not mean that financing banks do not care about sustainability. Berlin Hyp, for one, a mortgage bank with a long-term track record in commercial real estate financing, has been issuing green mortgage bonds for years and places a premium on sustainability management.

1.2 Relevance of Sustainability Aspects for Logistics Real Estate

For a long time, logistics properties were primarily designed as buildings whose fitness for purpose took priority. But no one would dispute that the logistics business and its associated real estate can contribute in important ways to a sustainable future. It is for this very reason that quite a number of efforts have already been made to groom logistics real estate for sustainability.

Advances in technology and materials keep making it easier to design properties in more environmentally friendly ways. Especially new-build construction projects focus increasingly on green warehouses or green logistics. The trend reflects the fact that more and more market players have come to expect the logistics sector to provide sustainable assets. After all, a modern and efficient property not only serves the purpose of communicating a high level of environmental awareness, but also generates significant cost savings. Going forward, the degree to which a given property development can adequately meet this requirement will thus be a measure of its success.

Those companies that embrace innovative and efficient solutions to cope with the challenges of sustainability will therefore be at an advantage. Even today, it is feasible to design a logistics property in such a way that its emissions and compensation cancel each other out and turn the property into a more or less carbon-neutral operation. CO_2 neutrality is not a precisely defined term in this context and may be achieved, depending on the design, by operating a rooftop photovoltaic (PV) system, for example. The attributes that constitutes a sustainable logistics property are therefore based not least on a given definition of environmental sustainability.

Reduced Energy Consumption is a Key Characteristic of a Sustainable Logistics Property

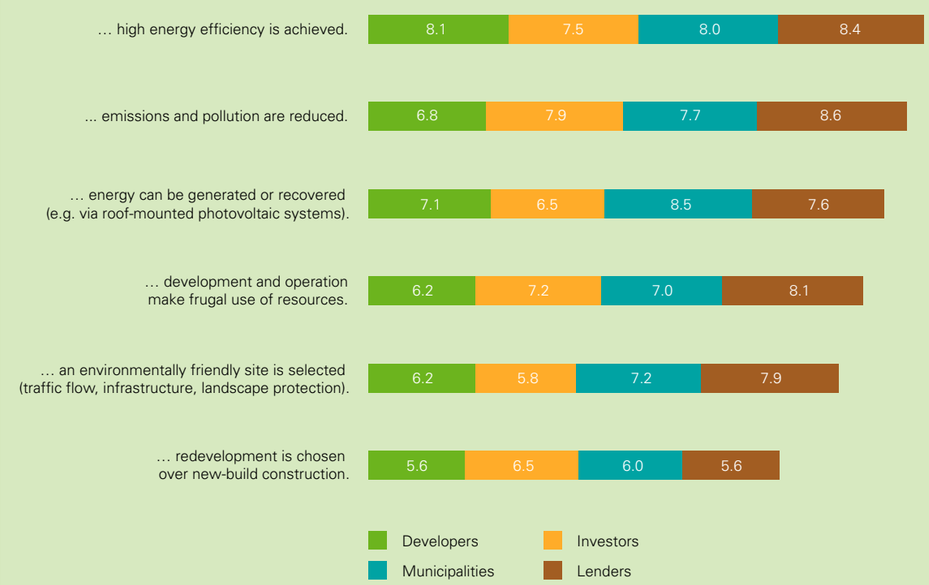
As in previous years, we conducted an online poll among the leading logistics real estate market players. The groups of invited persons include: developers, investors, municipalities and lenders. The interviewed market players consider energy efficiency the most critical aspect of a building if it is to qualify as a sustainable logistics property. Overall, respondents rated this category with an average of 8 out of 10 points (on a scale from 0 for very low significance to 10 for very high significance). All panel groups shared this assessment. The need to reduce pollution and emissions was credited by the market players with the second highest significance score. Options to generate or recover energy at the property itself, e.g. via a rooftop photovoltaic system, received an average significance rating of 7.4 points with respect to sustainability from the poll respondents. Overall, this means the energy aspects take centre stage as a key criterion for the sustainability of a logistics property.

As outlined above, awareness for the subject of sustainability is visibly growing in the logistics real estate sector just like elsewhere. Lenders, more so than the other market players polled, consider the environmental sustainability of a logistics property particularly important. They gave sustainability an average significance rating of 7.3 points. The assessment by investors ranged on a similar level.

1.2.1
How important are sustainability aspects of logistics real estate for you?*

* The numerical values are on a scale from 0 (very low significance) to 10 (very high significance)

1.2.2
A logistics property is sustainable if …*



* The numerical values are on a scale from 0 (very low significance) to 10 (very high significance)

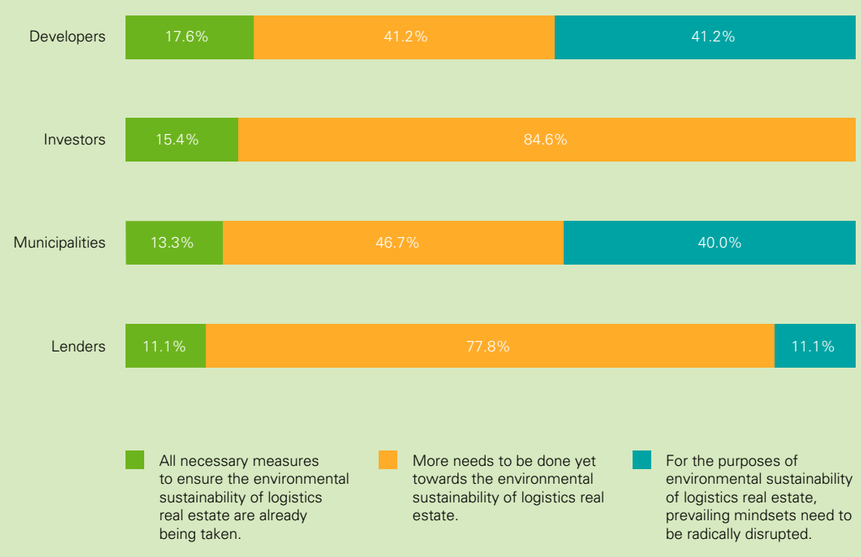
Rising Demand for Certified Properties

If for no other reason, sustainability is a highly relevant subject for logistics real estate simply because the segment shows an enormous demand for additional units. One of the main drivers of this development is the rapidly growing e-commerce sector, which keeps fuelling demand, including for large-scale facilities. In the "Logistics and Real Estate 2019" survey, the hypothetical demand for new-build logistics facilities in Germany between now and 2030 was estimated to be about 6.5 to 7.0 million sqm annually. This in turn brings in the related issue of land take, i.e. the covering of soil by development. A point of criticism frequently levelled against new logistics developments in particular is its high degree of soil sealing.

The go-to approach that has established itself within the sector to make sustainable construction practical, measurable and comparable is the use of certification systems. Certification systems of this type differ from one country to the next. The system predominantly used in Germany is the one developed by the DGNB German Sustainable Building Council whose comprehensive quality assessment covers the entire building life cycle and integrates up to 40 sustainability criteria. Depending on the degree of compliance, certificates in Platinum, Gold, Silver and Bronze are awarded. A definitive goal of certification is to encourage the long-term institutionalisation of sustainable construction and action.

One thing is for sure: Further efforts are called for to increase the environmental sustainability of logistics properties. The prevailing opinion among the respondents is clearly that more of an effort needs to be made in order to ensure the sustainability of logistics real estate. Among the property developers, around 41% of the respondents stated that a paradigmatic shift in thought is required to achieve the sustainability-based objectives. In fact, there is one thing all panel groups have in common: The notion that the steps taken so far will suffice to achieve environmental sustainability is shared only by a minority. There is clear evidence that market players do see a need for further action in terms of sustainability measures.

1.2.3
Which of the following hypotheses are you most inclined to agree with?



1.3 Steps to Enhance the Sustainability of Logistics Real Estate

The Entire Life Cycle of a Given Property Needs to be Considered

Steps that are likely to enhance the sustainability of logistics real estate could be applied to several stages in the life cycle of a given property. Options include the site selection, the planning and construction phase, and the possible demolition of the property. But the most promising effects are obviously achieved if the project is based on a holistic approach to sustainability. In addition to plausible engineering specifications toward this end, it makes sense to pay particular attention to the workflows and processes of commercially used properties. The careful use and conservation of natural resources as well as the avoidance of environmental damage are principles worth considering when structuring a property for sustainability.

Any Number of Angles to Make a Property Sustainable

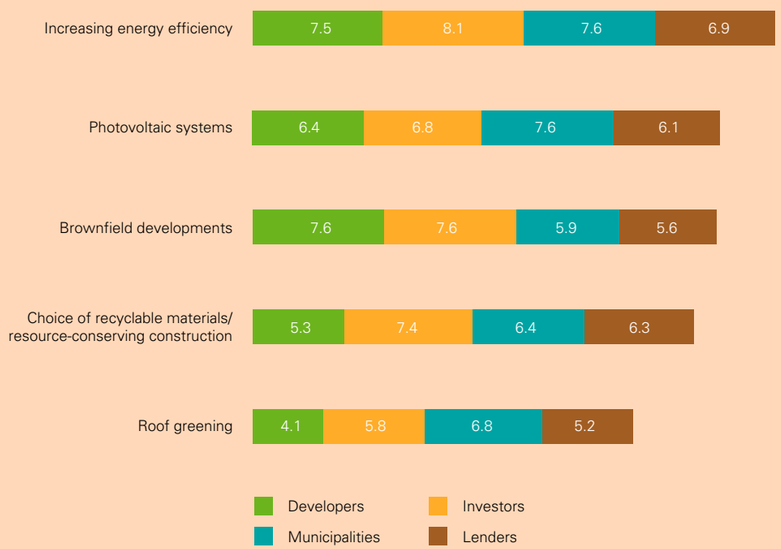
Diverse measures are conceivable to enhance sustainability. As far as the added value of the measures is concerned, all panel groups agree that increasing the energy efficiency is the most effective step. One approach, for instance is the energetic optimisation of the building shell. This could coincide with a reduction in noise emissions. Additional options that could be subsumed under this measure is the use of daylight and of natural ventilation inside the units. The respondents also credit the use of a photovoltaic system with serious environmental benefits. The CO_2-free generation of electricity from solar energy can drastically reduce the energy consumption, one of the main sources of greenhouse gas emissions. As it so happens, the roofs of logistics warehouses with their extensive shade-free areas offer ample opportunity for the installation and effective use of photovoltaic modules.

Moreover, brownfield developments are a proven means to take a more conservationist approach to construction because they avoid further soil sealing. After all, transport access and infrastructure are in place at developed locations and therefore often imply added value that greenfield developments lack. Especially brownfield developments in peri-urban locations, such as industrial brownfield sites, can potentially shorten delivery distances and thereby reduce the traffic flow.

Both developers and investors credit this kind of measure with a particularly high environmental value-added, awarding it an average score of 7.6 points. Of course, the choice of building materials presents another option for making logistics properties more environmentally friendly. Recyclable building materials, for instance, can be reused for another purpose later on. A case in point would be the use of timber construction for outer shells, because wood, used as building material, has a low carbon footprint in this context.

Green roofs can also have a positive effect for the warehouse underneath. In this role, a green roof acts as a natural air-conditioning system for the building, keeping the heat out in summer and providing thermal insulation in winter. On top of that, organically grown roof surfaces provide a habitat for plants and wildlife. That being said, roof greening is rated clear across the panel as a comparatively ineffective way to make a logistics property sustainable. In addition, LED lightning is a cost-efficient and effective way of making logistics properties more sustainable.

1.3.1
How do you rate the following measures in terms of their environmental value added?*



* The numerical values are on a scale from 0 (very low added value) to 10 (very high added value)

1.3.2
How do you rate the following measures in terms of their feasibility?*

* The numerical values are on a scale from 0 (very low feasibility) to 10 (very high feasibility)

1.4 Feasibility of the Measures

Aerial view of a logistics property in Muehlacker

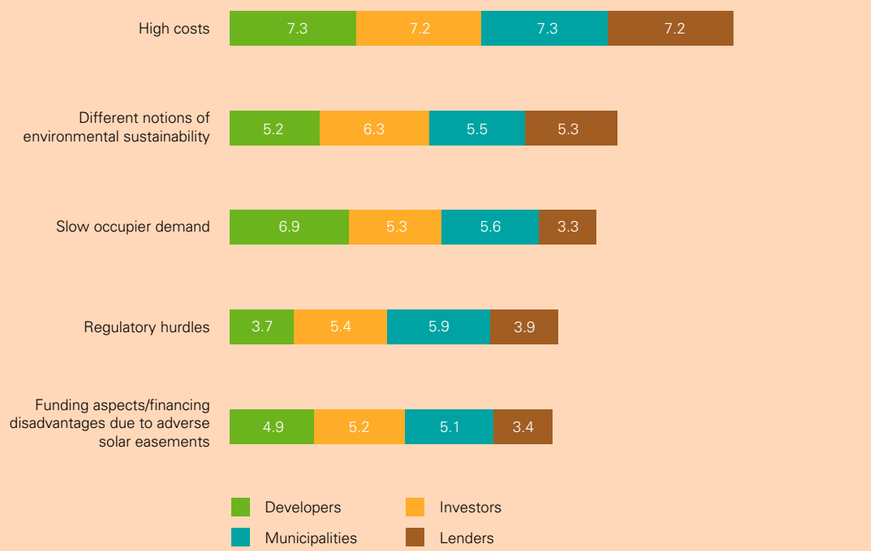
The implementation of these measures depends largely on the extent to which they can reasonably be implemented against the background of profitability. A commitment to sustainability is often associated with high capital expenditures. Indeed, achieving environmental sustainability does come with considerable costs and investments. But in many instances the capital invested toward this end also helps to enhance the efficiency of the respective property and its occupier. So, the long-term advantage can far outweigh the costs. The additional costs of environmental measures tend to range inside a bracket of up to 5% of the total construction costs of a property development.

In addition to the costs associated with a given measure, other factors can be relevant for its feasibility, e.g. the structural implementation options in structural engineering terms. The survey panel credits the installation of photovoltaic systems with the best chances for implementation, meaning the same measure credited with a high value added in terms of sustainability. Efforts to boost the energy efficiency, which is rated as the most effective measure, were awarded an equally high feasibility score of about 7 to 10 points. Conversely, respondents associated brownfield developments with the biggest limitations and therefore the lowest implementation chances. Other respondents differed. Especially the interviewed developers judged their feasibility as excellent, based on their experiences.

Hurdles compromising the implementation of sustainability measures can have any number of causes. The survey findings suggest that the costs associated with sustainability are considered the most decisive obstacle. Another obstacle standing in the way of building environmentally friendly logistics properties is apparently the lack of demand on the occupier side.

In combination with the high costs to be expected, this translates into a lack of incentives for investing in the sustainability of logistics real estate. Other aspects such as regulatory hurdles and funding-related drawbacks are deemed to have a rather negligible retarding effect, with average scores of less than 5 points.

1.4.1
What are the biggest obstacles to the environmental sustainability of logistics real estate?*



* The numerical values are on a scale from 0 (very low inhibition factor) to 10 (very high inhibition factor)


Source: Bremer

Terminal at a Logistics Center in Achim

1.5 Requirements Profile for Sustainable Properties

"Important in this context is a low CO_2 output or CO_2 neutrality in the operation context."

Michael Dufhues,
Member of the Executive Board, Bremer AG

"Sustainability issues play a crucial role in the planning and construction of real properties. A sustainable building is understood to have a long service life and to be optimised as much as possible for low running costs in operation across the entire life cycle. Important in this context is a low CO_2 output or CO_2 neutrality in the operation context. Another thing to consider in this context is the use of recyclable materials with a view to a possible conversion and the eventual demolition.

From the occupier's point of view, an optimal operation that ties in with a building's sustainability profile includes short walking distances, sound working conditions in terms of the ambient climate and lighting, as well as the site's convenient accessibility by means of public transportation as additional aspects. Not to be underestimated is also the overall technology concept of the chosen installation. It definitively lengthens the life cycle because it can make structural alterations in the context of conversions easier to implement.

Within the framework of logistics-property developments, about 50% to 60% of all new buildings are now certified under the present standards of the German Sustainable Building Council (DGNB) or the Leadership in Energy and Environmental Design (LEED) standard. It should be added that certifications barely delay the time to completion. More important is to integrate all stakeholders early on in order to ensure that the diverse sustainability requirements for all processes of a building's concept and use are taken into account. The later this process takes place, the more difficult it gets to obtain such certificates. It is indispensable for a sustainable type of construction to have the technical competencies on hand.

Since investments in measures towards a sustainable building become necessary from the very start of a project, a shift in the mental approach is needed. For one thing, steps to ensure alternative use options should be considered for such developments, even if these options will not become relevant within the foreseeable future. Occupiers who seek to rent energy-optimised certified properties will increase in number and eventually become the standard tenant base.

Building works that help to increase a building's sustainability include, without being limited to, the following:

- Thicker insulation contributes significantly to the savings potential as it reduces the energy consumption and with it the CO_2 output.
- Smart technical building design (heating, ventilation, cooling, electric supply)
- Flexible building structures for various types of use
- Stronger base slabs for heavier loads
- Waterproofing of base slabs to contain water hazard substances
- Load reserves on roofs for future installations, e.g. of PV systems
- Important aspects in regard to building materials include recyclability and fire retardancy above all"

Chapter 02 / The Development Market for Logistics Real Estate

2.1 Development Volume of Logistics Real Estate in Germany

How large is the volume of new construction? How does the building activity divide up among the regions? And who are the property developers?

The trend of recent years continues and there is a strong demand for logistics facilities. But is the existing demand being met by completions? How large is the volume of new construction? How does the building activity divide up among the regions? And who are the property developers? Answers are provided by the bulwiengesa real estate database, which lists all building activities in the logistics real estate segment that were identified through our research efforts, among other data. Like every year, these were matched with the data of the logistics real estate market operators. The annual data matching is limited to pure storage and logistics warehouses. Conversely, it ignores light industrial and other commercial real estate such as business parks or similar, which are covered by the market report on multi-use and multi-let commercial real estate by Initiative Unternehmensimmobilien.

Around 1,775 assets incl. advanced-stage pipeline projects (under development or in the detailed planning stage) for 2020 and 2021 were analysed. Empirical evidence suggests that the completion of building projects or planned projects is often delayed beyond the end of the year. Accordingly, the estimated times to completion of the pipeline developments was calculated using probability factors. Key date for the evaluation was 31 July 2020.

Completions Volume Rises again in 2019

While the completions volume in 2018 was slightly lower than that seen in previous years, 2019 saw the highest new construction volume since market observation began. Roughly 4.9 million sqm of logistics space were completed last year. Particularly high completions volumes were registered during the second and fourth quarter of 2019 with nearly 1.5 million sqm each. As a result, the 2019 figure was well above the mean completions volume of the past five years, which equalled 4.4 million sqm.

Still, the year-end total fell short of the mark of 5.0 million sqm that had been forecast the year before. Project delays due to drawn-out permit procedures or construction periods caused several completions to be moved back to 2020. This has pushed the volume of new construction closer to a new all-time high in the ongoing year.

Mark of 5.0 Million sqm Expected to be Crossed in 2020

If the envisioned completion dates are largely met, year-end 2020 is likely to set a new record for the time covered by the observation period. The completions volume during the first quarter of 2020 was relatively small at about 816,000 sqm, whereas the second quarter—just as it had in 2019—achieved a significantly higher total, resulting in the completion of 2.3 million sqm by mid-year. With nearly 1.5 million sqm expected to come on-stream, the third quarter will conclude with another very high figure that is likely to be topped by the fourth quarter. If the definitive building projects are completed on schedule, there is every chance that this year will crack the mark of 5.0 million sqm.

Strong Demand will Keep Necessitating High Completions Volumes

Judging by the projects under development or in an advanced planning stage, 2021 is expected to maintain the level with around 4.7 million sqm in new-build completions. This is, of course, subject to future shifts that could be caused by project plan revisions or unforeseen new-build construction projects. The high completion volumes of almost 5.0 million sqm highlight the persistently strong demand for logistics real estate and the construction activity in response to it. Furthermore, an increase in speculative construction activity has been observed in the recent past.

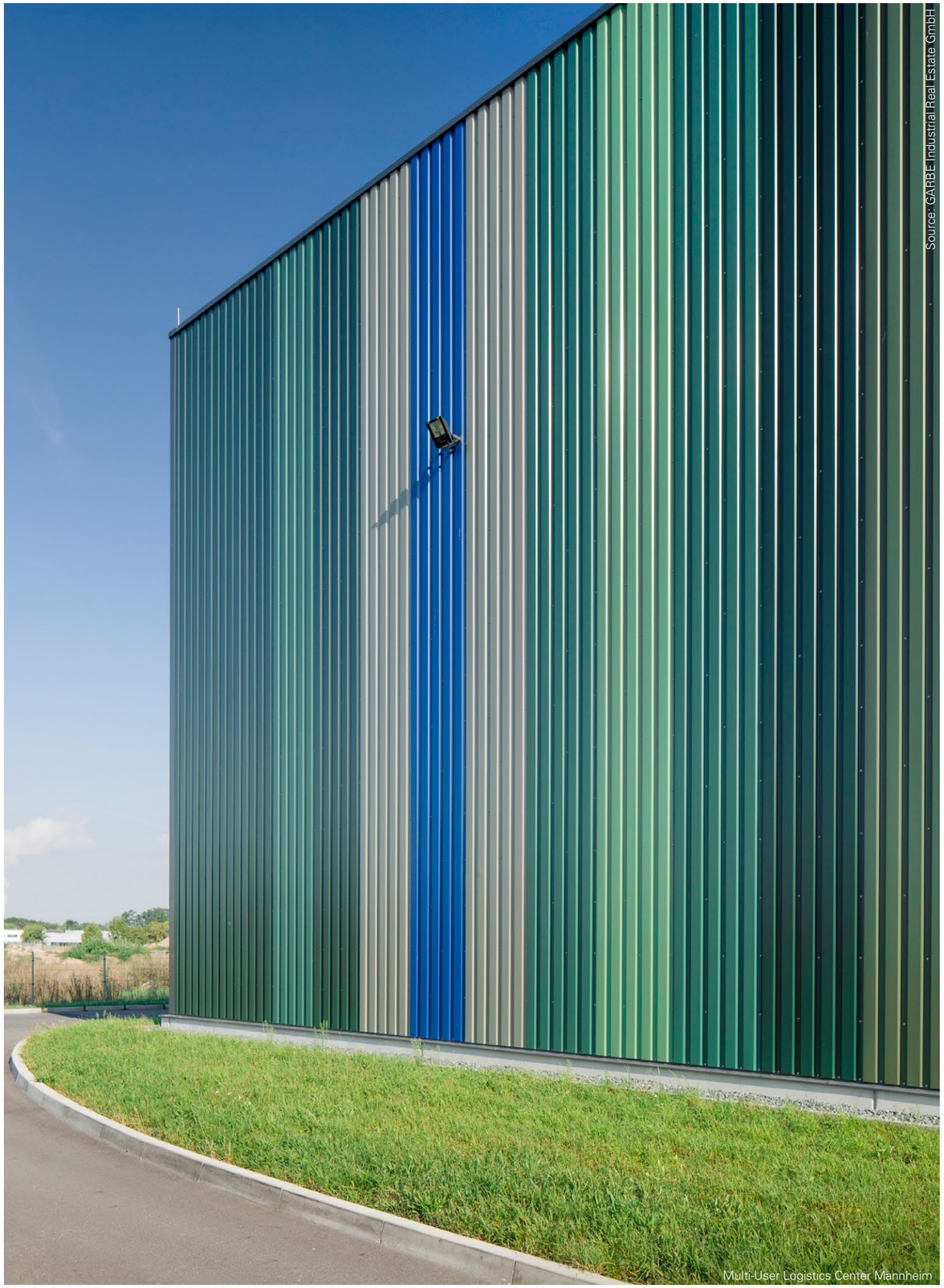
Building activity is expected to remain lively in the longer term, too, because one thing the coronavirus pandemic has made perfectly clear is this: Logistics is the lifeline of our national economy and of fundamental importance for the purpose of supplying the German population. Re-shoring, near-shoring and expanded stockpiling in the production and retail sectors are options intensely discussed at the moment. The pandemic has only spurred the ongoing expansion of e-commerce and further added to the already strong demand for logistics facilities.

2.1.1

Logistics facility completions in Germany, by quarter and year, 2015–2021*

Q1 Q2 Q3 Q4 Year-end

*Evaluation includes all completions from the first half of 2020 as well as the pipeline sites (projects under construction or planned, which are expected to be completed in 2020).



Source: GARBE Industrial Real Estate GmbH

Multi-User Logistics Center Mannheim

2.2 Overview of Developers and Typologies

Logistics real estate is developed by various types of operators. A certain percentage of the developments for owner-occupancy are attributable to the industrial and retail sectors. But logistics operators sometimes develop owner-occupied facilities, too. Even large enterprises and conglomerates as well as regionally established market players can be owner-occupiers. The most prominent group among the developers, however, are the property developers that raise buildings on a large scale, either demand-based for clients or on speculation. The service spectrum of property developers ranges from international to national, to regional and even local orientation of the properties built. Moreover, these developers cover all size categories, from big box logistics assets built on speculation all the way to small-scale owner-occupier solutions.

Property Developers Dominate the Ranking

Just like last year, property developers took the top 7 spots in the developer type ranking. Within the German development market as a whole, they account for a share of about 50% and they increasingly pursue projects on speculation, which means that construction starts before a specific tenant/occupier has been found. Outside this category, the Deutsche Post DHL Group as CEP service provider made ninth place among the leading developers of logistics real estate.

Goodman Still in the Top Spot

Despite the relatively low completions volume in 2020 to date, Goodman Group successfully defended its lead. Between 2015 and 2020, the Australian developer completed about 1.9 million sqm of logistics space in Germany. The logistics space completed in the ongoing calendar year (including pipeline units) is well below the level of the previous two years, the total approximating 155,000 sqm only.

With around 373,000 sqm, Panattoni, the second-placed property developer, outperformed the Goodman Group, completing more than twice as much floor area. Overall, Panattoni developed around 1.1 million sqm over the past five years, and is now ahead of VGP Group, which dropped back to third place with barely 956,000 sqm. It is closely trailed by Dietz AG from the state of Hesse, which built about 908,000 sqm, one third thereof (338,000 sqm) in 2020 alone. In fact, Dietz AG is the developer with the second-largest volume this year, after Panattoni. Like last year, GARBE Group has maintained its place among the top 5 developers with a total of 696,000 sqm of logistics space completed between 2015 and 2020. That said, the two German developers Dietz AG and GARBE Group swapped places four and five since last year. Next in line are Segro (645,000 sqm) and Prologis (626,000 sqm).

Barely Any Owner-Occupiers in the Top Spots

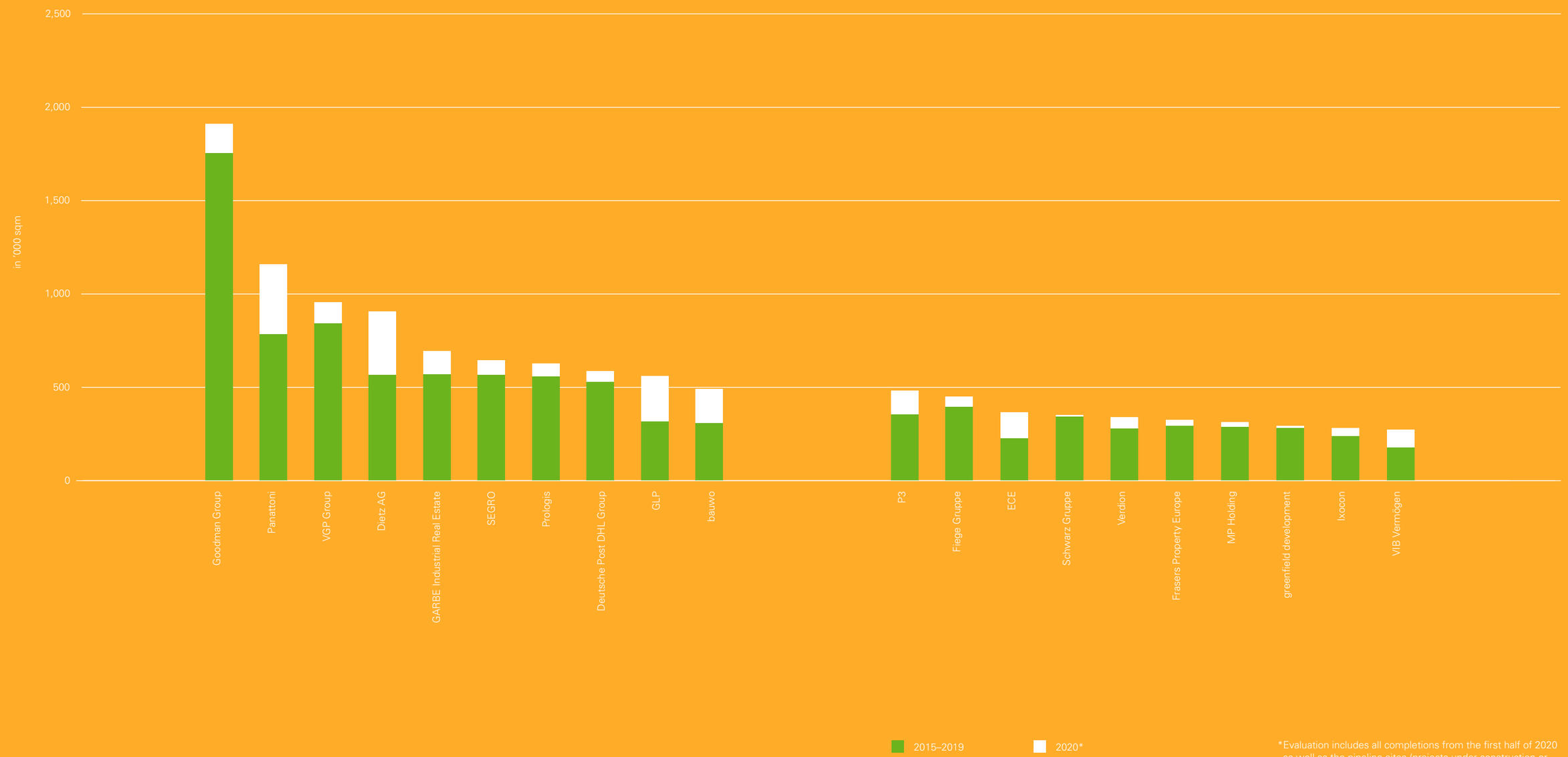
The Deutsche Post DHL Group in place eight is the highest-scoring logistics operator/CEP service provider in the ranking. It developed around 587,000 sqm of logistics space between 2015 and 2020. Another logistics operator is the Fiege Group, ranked 12th with 449,000 sqm. The only retail logistics operator still in the top 20, despite its very low completions volume in 2020, is the Schwarz Group. As recently as 2018 ranking, the Schwarz Group made third place. It slipped back to ninth place last year, though, and is down to 14th place in the latest analysis with just 352,000 sqm. Gazeley has fully adopted the name GLP now, and the Singapore-based developer placed ninth in this year's ranking. All of its projects either received a DGNB Gold certificate or else are seeking sustainability certification. bauwo (492,000 sqm) has ascended from place 19 to place ten, whereas ECE (367,000 sqm) ascended from place 20 back to place 13.

Two New Names among the Top 20 Developers

One of the new names in the list of Germany's 20 leading developers is P3, a property developer organised under the umbrella of Singapore's sovereign wealth fund and now ranking 11th with a total of 484,000 sqm. In addition, VIP Vermögen (274,000 sqm) made it into the ranking for the first time, claiming place 20. The mid-market company Immobilienholding developed around 95,500 sqm in 2020. Having dropped out of the top 20 in 2019, developer "greenfield development" returned this year, placing 18th with 294,000 sqm completed.

2.2.1

Top 20 developers of logistics facilities in Germany, 2015–2020*



*Evaluation includes all completions from the first half of 2020 as well as the pipeline sites (projects under construction or planned, which are expected to be completed in 2020).


Source: Bremer

Inside view of a logistics center in Hammersbach

2.3 Construction Hot Spots—Building Activity by Logistics Region

Brisk Building Activity in the Logistics Regions

As far as regional focus goes, logistics real estate developments continue to concentrate on the established logistics regions. For what it's worth, the share of logistics facilities raised in these regions declined slightly to 75.8% during the period of 2015 through 2019, down from a 77.4% share during the prior period. Yet the land shortage in the strongly sought-after logistics regions is clearly felt. Many new-build developments have had to settle for alternative "second-line" locations where suitable development plots continue to be available.

75,8%

75.8 % Share of new construction volume in established logistics regions (2015–2019)

Berlin: Logistics Region with Highest Completions Total, after Rhine-Main/Frankfurt

Now, as then, the Rhine-Main/Frankfurt logistics region retains its top spot from previous reports in the regional ranking. But the wide gap that used to separate it from runner-up Berlin has narrowed lately. In 2020, roughly 420,000 sqm of logistics space are expected to come on-stream in the Berlin logistics region, which exceeds the completions total of the Rhine-Main/Frankfurt region by around 100,000 sqm. During the observation period 2015 through 2020, a total of 1,9 million sqm were built in the Rhine-Main/Frankfurt region and about 1.6 million sqm in Berlin. Development activities here are concentrated in the integrated conurbation and the greater Berlin area.

The second place in the ranking has rotated on an annual basis though: Hamburg claimed it in 2018, Düsseldorf in 2019, Berlin in 2020, and chances are that the Rhine-Ruhr logistics region will claim it in 2021. Between 2015 and 2019, the Rhine-Ruhr logistics region created 1.1 million sqm, closing in on Berlin (1.2 million sqm), Düsseldorf (1.2 million sqm), and Hamburg (1.1 million sqm). The region's chances are boosted by the comparatively large volume of 292,000 sqm that are expected to be completed in the ongoing calendar year. It is therefore likely to join the top three regions next year, at the least. Inversely, completions in 2020 are expected to decline to 221,000 sqm in the Düsseldorf logistics region and to 138,000 sqm in Hamburg.

In sum, the completions total of the top 5 logistics regions alone adds up to 6.2 million sqm for the period of 2015 through 2019. In other words, they account for a 28% share of the entire new-build logistics units completed in Germany. This in turn means that the share of the metro regions has contracted by about 2 percentage points year on year, again because of the land shortage in these regions.

2.3.1

Completed logistics facilities by logistics region, 2015–2020*

*Evaluation includes all completions from the first half of 2020 as well as the pipeline sites (projects under construction or planned, which are expected to be completed in 2020).

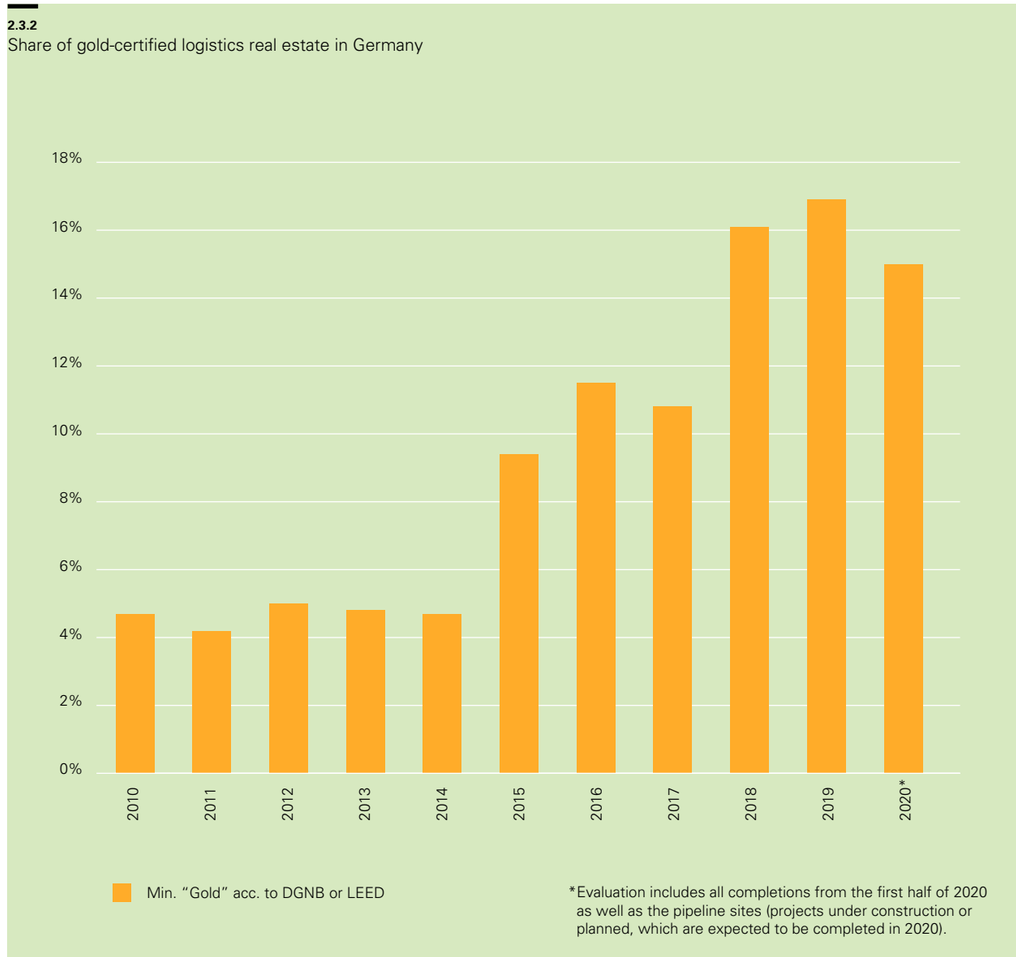
Warehouse and distribution property in Hamburg

Construction under Way in Nearly All Logistics Regions

Despite its lively building activity, with 246,000 sqm in new-build units anticipated for 2020, the Hanover/Braunschweig region failed to make it into the top 5 logistics regions in this year's rating. Dortmund is expecting another banner year in new-build completions with around 288,000 sqm, too. Rankings not just of the top regions but of all regions are being reshuffled at the moment. Halle/Leipzig, for one, has moved up a smidgeon year on year. Last year, its construction total of 319,000 sqm put it almost level with the Rhine-Main/Frankfurt logistics region, while this year's completions volume of 159,000 sqm has earned it place 10.

A large floor space total of 211,000 sqm will also be completed in Lower Bavaria in 2020. In Nuremberg (rank 23), another 130,000 sqm will be added to the 150,000 sqm built between 2015 and 2019. Magdeburg, too, expanded its completions total of the past few years (97,000 sqm) massively by adding 326,000 sqm in 2020. The volume of new construction in the Koblenz logistics region has almost tripled relative to the completions of previous years with more than 155,000 sqm. Bringing up the rear among Germany's logistics regions is Saarbrücken, one down from Bad Hersfeld where no completions are reported for 2020.

2.3.2
Share of gold-certified logistics real estate in Germany



Share of Certified Assets on the Rise over Time

The growing public awareness for the subject of sustainability is reflected in the demand and supply for environmentally sustainable logistics real estate. Sustainability certificates have proven quite useful as quality labels that make it possible to appraise and assess the sustainability of a given property. Indeed, the certification aspect keeps gaining in significance for new-build construction projects. While the share of newly-built properties that were certified for a gold or higher rating (under DGNB or LEED) was barely 4.7% in 2010, the number of sustainability certifications rose significantly in subsequent years. In 2018 and 2019, their share exceeded 16%. By comparison, the mean of 12.9% for the five-year period of 2015 through 2019, topped the average share recorded for the period of 2010 through 2014 (4.7%) by no less than 8.2 percentage points. Analogously, the absolute number of logistics properties certified between 2010 and 2019 increased by an average of 25% per year.

2.4 Does it Always Have to be a New-Build Unit?

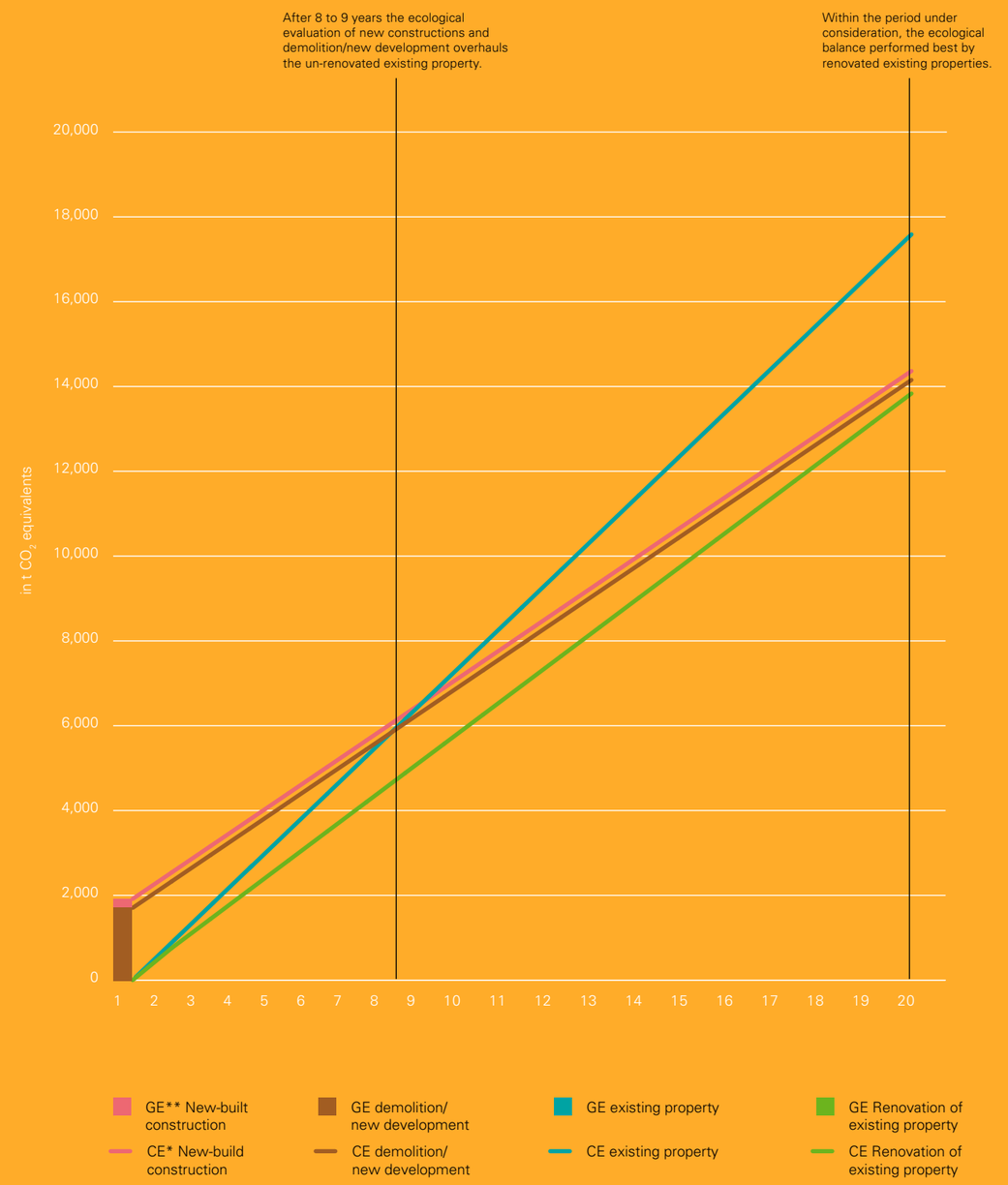
Germany's logistics sector is increasingly preoccupied with the issue of sustainability and related environmental aspects. Around 30 percent of the country's CO_2 emissions are attributable to the buildings sector. In many cases, investing in the refurbishment of older property stock and extending its service life is a more resource-conserving approach than opting for new-build construction or a demolition/new-build construction combo.

The chart below shows to what extent CO_2 emissions differ between the options demolition/new-build construction, refurbishment or continued use of existing properties. Whenever several options for meeting the demand for accommodation present themselves, this chart is meant to facilitated the decision-making process with respect to the carbon footprint. Naturally, there are other factors that need to be taken into account, such as the condition of the vintage property, its fitness for purpose, its location, as well as diverse economic aspects (property prices, rent level, etc.).

To appraise them in environmental terms, the grey energy (GE) and the consumption energy (VE) were examined. The so-called grey energy includes all forms of energy that are necessary for the construction of a building (such as the sourcing, manufacturing and processing of materials, the hauling of people, machinery, building components, materials, as well as the disposal of things). The valuation unit used to this end is "Global Warming Potential" (GWp) of these components. The term "consumption energy" describes the CO_2 output caused by electricity and heating requirements as part of the building operation. The consumer pattern and other factors are deemed identical over time to simplify the comparison, and therefore follow a linear trajectory during the observation period. All VE figures have been converted into tons (t) of CO_2 equivalents p.a. The GE figures (also quoted as t CO_2 equivalents) are one-off items created at the start of the observation. The starting point of these scenarios coincides with the time of a building's completion.

The chart shows that the unrefurbished warehouse is initially at an advantage because its historically generated CO_2 equivalent is disregarded. It takes between eight and nine years before the greater energetic efficiency of the new-build greenfield unit returns a net benefit. The demolition/new-build construction (brownfield) scenario has a marginally greener footprint because materials recycled during the demolition are factored in with a negative carbon effect. Other than that, the scenarios behave identically. The environmental life cycle assessment of a refurbished existing property achieves the highest score over an observation period of 20 years. It takes a number of additional years before the carbon footprint of either new-build variant can be assumed to have reached environmental parity. In the case of the existing property it is assumed that it is in good repair and has not reached the end of its life cycle.

2.4.1
Ecological evaluation of different scenarios



**Grey energy
*Consumption energy

Source: GARBE Industrial Real Estate GmbH

The following options may be used during the property development in order to meet the demand for sustainable units (exemplary scenarios):

1. **New-build** construction of a modern, certifiable logistics property on a previously undeveloped plot (greenfield).

2. The provider owns an **existing property** built in 1990 and located in an historically grown business area. The warehouse is in good repair and principally meets the requirements of the logistics operator even if certain aspects are possibly dated.

3. Conceivable options are also to refurbish the warehouse **(upgrade and refurbishment)** so as to optimise its energy efficiency. The value in use would principally remain the same, though.

4. Another option would be the **demolition** of the existing unit and the **construction** of a new one on the same plot. This option would create a new-build unit (brownfield) that meets state-of-the-art criteria and represents the state-of-the-art with respect to the value in use and the certification standards.

In order to determine the environmentally most sustainable option, the respective carbon footprints of the four options are used as deciding factor.

1. A **new-build property** is optimised with respect to its value in use and its CO_2 output through its consumption of electricity and heat, e.g. because its thermal insulation is superior. However, the construction (production, transportation and use of the building materials) generates CO_2 as well. Moreover, a new-build unit seals a previously pristine piece of land.

2. Of course, the **existing property** generated CO_2 when it was built. But these are historic emissions that were caused a long time ago. While this does not imply an environmental "clean slate," the building generates no construction-related emissions now, and the historic emissions could be interpreted as "sunk costs." The carbon footprint from the historic construction phase is therefore assumed to be neutral at the moment of the floor space consumption in the chart. The clean slate is offset by heightened CO_2 consumption rates, e.g. because the thermal insulation is inferior to that of a new-build unit. It is assumed that its energy consumption is 30% (electricity) and 20% (heat) higher than that of a new-build unit.

3. During the **refurbishment** of an existing property, certain energetic parameters are also optimised. A pragmatic approach to lowering the electricity consumption is by installing LED lights, for instance. A general reduction of -15% compared to the unrefurbished state is assumed. The thermal insulation, by contrast, is rarely replaced because the costs would be out of all proportion to the benefits. If anything, the new heating system could arguably be replaced. Overall, only a marginal reduction of the CO_2 costs (-5%) is assumed with respect to heat generation.

4. The **demolition/new-build** construction scenario is based on the same assumptions as a new-build property. Although the demolition will also cause a CO_2 output, the recycling of material translates into a negative contribution. All things considered, the CO_2 contribution is slightly negative and is marginally better than that of new-build greenfield construction.

2.5 Upgrading Property Stock Conserves Resources

"How can we reward investors for environmentally sound commitments?"

Tobias Kassner,
Head of Research, GARBE Industrial Real Estate GmbH

"What people refer to as a sustainable property is not necessarily a new-build property, even if certified under one of the familiar green building standards. Naturally, the certificates make sense and act as incentive to strive for the efficient use of energy and resources when planning, developing and operating a given building. Moreover, even criteria such as social compatibility and the integration of e-mobility are optimally planned and implemented from the start.

But the situation on the ground tends to be a bit more complex. New-build units, at least those raised on greenfield land, seal previously undeveloped land. Since plots are a rare commodity in urban areas, developers increasingly choose alternative sites in the suburbs. Greater distances between consumers and staff on the one hand, and the logistics sites, on the other hand, negatively impact the carbon footprint. This is certainly at odds with the idea of sustainability, not least because a new-build unit has a CO_2 output, too, before it starts delivering green benefits.

GARBE therefore focuses on existing properties, because their long-term sustainability scores are of far greater relevance—integrated locations, short distances and no loss of soil through land take. The green scorecard of an existing property is further improved if reasonable measures such as energy-efficient lighting, photovoltaics on roof-tops, etc. are consistently implemented. By keeping the cost envelope manageable—in both environmental and economic terms—properties of this type tend to score high in environmental life cycle assessments.

Environmental concerns and digitisation have topped the agenda of many companies for some time now. It would be dangerous to put the sustainability targets on the back burner for the duration of the pandemic. The grave long-term ramifications of climate change will remain key issues for decades to come. So, an important question to ask is: "How can we reward investors for environmentally sound commitments?"

GARBE is well aware of its environmental, social and economic responsibilities in this context. Accordingly, all corporate decisions are always based on the three pillars of the ESG model. We have adopted the hypothesis that, in many cases, it is a more resource-conserving approach to invest in vintage property stock and to keep operating it rather than opting automatically for new-build construction or demolition/new-build construction. And so, we are convinced that sustainability is rewarding not just in an environmental sense but financially, too."

Chapter 03 /

Investment Market for Logistics Real Estate

3.1 The Investment Market for Logistics Real Estate in Germany

The year-end transaction total for German logistics real estate in 2019 approximated 72.6 billion euros. For the commercial investment market, the figure represented a new all-time record. It topped the excellent result of 2018 by roughly another 19%. The five-year mean (60.1 billion euros) was also smashed with ease. The share of foreign investors continued to decline, hitting around 49% and, for the first time in years, accounting for less than half of the entire investment market for logistics real estate again.

Meanwhile, the onset of the coronavirus pandemic during the first half of 2020 has not had an adverse impact on the commercial investment market of Germany. The mid-year volume of nearly 29 billion euros implies a 17% growth over prior-year period. During the same time, the share of logistics real estate went back up to nearly 9%.

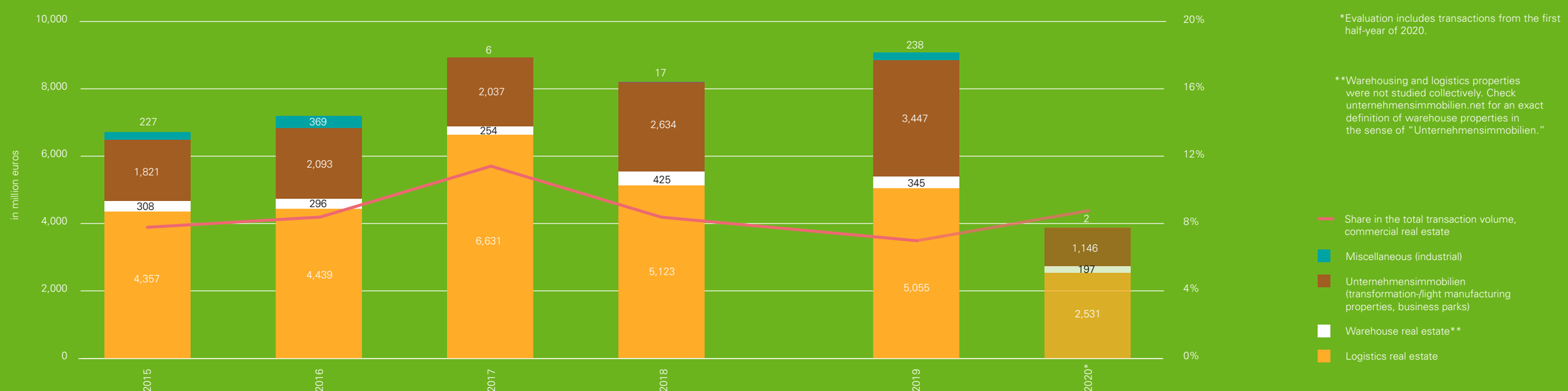
New Record Total on Commercial Investment Market Achieved in 2019

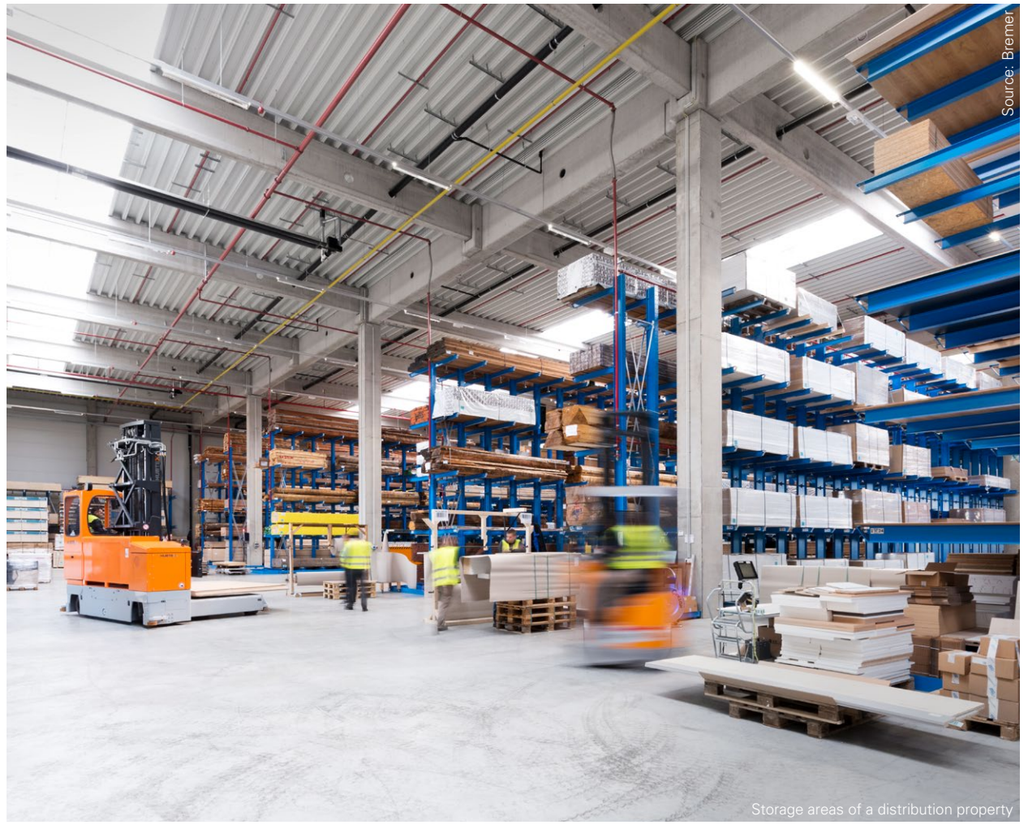
The increased demand from investors in the logistics segment is also reflected in the transaction volume: During the period of 2015 through 2019, warehouse and logistics properties worth c. 27.2 billion euros changed hands. If you add the proceeds from sales of Unternehmensimmobilien assets and industrial real estate, you get an investment total of c. 40.1 billion euros. Just how strong an investment year 2019 was is illustrated by the property types discussed here: More than 9 billion euros worth of assets were traded. A figure that tops the previous record from 2017 by over 150 million euros. Key factors driving this boom on the logistics and light industrial market include first of all a growing interest in Unternehmensimmobilien (multi-use and multi-let commercial real estate): Nearly 3.5 billion euros worth of these units changed hands, the highest total in the entire observation period to date.

Investor interest in logistics real estate remained just as high during the first half of 2020: With revenues of c. 2.7 billion euros, the mid-year figure far exceeds that of the prior-year period (1.5 billion euros). Analogously, the investment market for Unternehmensimmobilien reported a year-on-year increase with a total of c. 1.0 billion euros (+40%).

At mid-year 2020, the investment volume in warehouse and logistics real estate and Unternehmensimmobilien units already adds up to nearly 4.0 billion euros, well above the mid-year figure of 2019 (60%). The high volume is explained not least by the keen demand (that coincided with a limited supply) within a low-interest-rate environment. In addition to the dominant single-asset transactions, portfolio deals also contributed to the excellent sales result. For instance, Union Investment acquired 13 existing buildings and 6 property developments from GARBE for a sum total of nearly 800 million euros, while Ares passed its logistics properties on to the Investec Property Fund.

3.1.1
Investment volume in German logistics, corporate and industrials real estate, 2015–2019, 2020*




Source: Bremer

Storage areas of a distribution property

Investors are Warming to Logistics Real Estate—Not Least Due to the Coronavirus Pandemic

Latest estimates suggest that the interest on German government bonds will maintain their historically low level in 2020—even a moderate rise in interest rates is probably not to be expected before next year (in sync with higher consumer price indices). Accordingly, the German real estate market will continue to be popular with investors, who consider it a safe haven. Targeted investments include most notably the classic asset classes residential and office. However, the keen demand is matched by a limited supply only. And so, the search for alternatives is on.

The logistics and light-industrial market segment has continued to gain in popularity in recent months. The coronavirus crisis has highlighted the dependence on warehouse and logistics units, e.g. for the distribution of goods in the role of regional buffer storage sites. The crisis has clearly shown: Logistics are essential! But it has become quite impossible to serve the surge in demand on short notice, and this is true even though the investment volume has gone up significantly year on year. The ramifications of the coronavirus pandemic that are not yet quantifiable, and various unresolved conflicts (e.g. the trade row between the United States and China) as well as the continued boom in the e-commerce sector make sure that demand on the German logistics market will intensify further in the years ahead.

3.1.2
Logistics investment volume, by type of transaction, 2015–2019, 2020*

*Evaluation includes transactions from the first half-year of 2020.

Investment Volumes Keep Following Upward Trend

A look at the latest developments makes it reasonable to assume that German logistics real estate will remain a sought-after investment objective in the coming years. The resoundingly well-filled project pipeline could probably deliver a transaction volume of 5 billion euros or more by the end of 2020.

Portfolio Transactions on the German Logistics Real Estate Market

Investors seeking to invest large sums of capital swiftly and to acquire a large share of a given market often resort to portfolio transactions. The years 2015 and 2017 were paced by a steadily growing share of portfolio sales on the German transactions market for logistics real estate. The trend reversed itself in 2018 before bottoming out in 2019 for the time being. Package sales merely claimed a market share of around 39% anymore. During the first half-year of 2020, however, a large-scale portfolio transaction took place when GARBE Industrial Real Estate sold a cross-European portfolio worth c. 800 million euros to Union Investment. Deals of this sort appeal to institutional investors in particular. Yet their willingness to engage is at times checked by the short supply in the large-scale investment segment. In the current market cycle, for one, the accumulation of individual logistics assets has become the prevailing strategy.


Source: GARBE Industrial Real Estate GmbH

Aerial view of Logistics Parks in Dortmund

3.2 Investment Market Players Reshuffling

Between 2015 and 2020*, the top 20 list of logistics real estate investors in Germany was headed by the GARBE Group for the first time. With c. 1.9 billion euros in traded units, the company advanced into the lead position in term of logistics real estate acquisitions. Its fast growth since the previous reporting period is explained by a large number of transactions completed in Germany and elsewhere in Europe, mainly in the form of portfolio deals. This survey generally limits itself to transactions in Germany.

Runner-up this year is the US investment entity Blackstone with a transaction total of c. 1.8 billion euros. Frasers Property maintained its third place by spending 1.7 billion euros, the same amount as the year before.

By pooling its resources and engaging in the aforementioned portfolio transaction between GARBE and Union Investment, the investment company of DZ Bank increased its assets under management by roughly another 800 million euros worth of European logistics and light industrial properties. After its acquisition of the Logistrial assets, Union Investment ascended from 16th (2019) up to fifth place in 2020. The investment entity thus takes the spot right behind the China Investment Corporation (CIC), which is another player who had previously used a large portfolio transaction to expand its footprint on the German logistics real estate market.

By contrast, the Goodman Group dropped down one spot and now ranks sixth, closely trailed by RLI Investors, a partner of institutional investors (each nearly 900 million euros). With an investment volume of c. 600 million euros, the next spots on the list are taken by LIP Invest, Nuveen Real Estate and Savills Investment Management. These are in turn trailed by Patrizia, a global provider of real estate investment opportunities, in place 11 with close to 560 million euros.

Overall, the total amount invested by the top 10 investors—in logistics real estate—during the period 2015 through 2020* added up to 11.2 billion euros. The sum implies a market share of around 37% of all logistics property investments transacted, whereas the players ranking 11th through 20th claimed a combined share of around 15%.

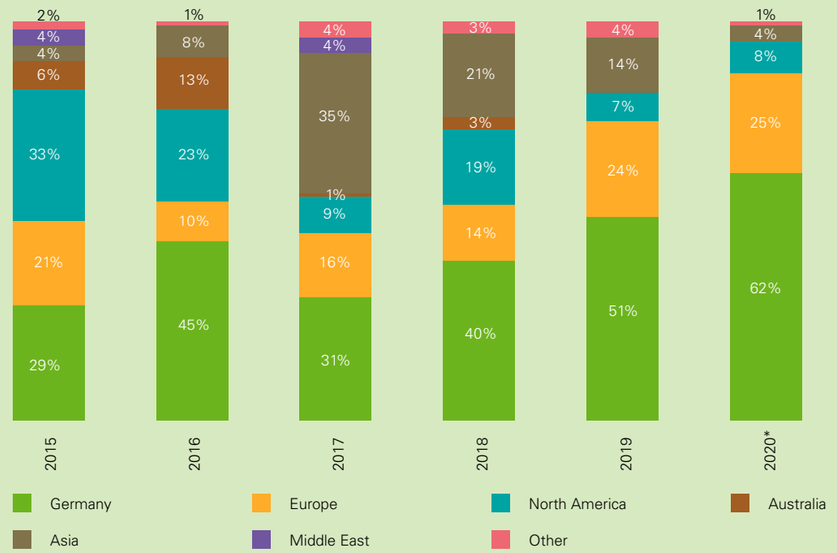
*Evaluation includes transactions from the first half-year of 2020.

3.2.1

Top 20 investors in logistics real estate in Germany, 2015–2019, 2020*

*The survey includes logistics real estate transactions from the first half-year of 2020. The transactions of the years 2015–2020 are analysed in summarised form for the sake of a clearly structured representation. To ensure comparability nonetheless, the years 2015–2019 are shown separately from the 2020 figures. The evaluation considers arm's length transactions between two unaffiliated entities on the open market ("external transactions") as well as transactions between two affiliated entities (under company law, e.g. a company's property development arm and an investment fund of the same company). Internal transactions of this sort were posted separately; they are by all means relevant in the sense that they represent changes of ownership at fair market prices (see the reporting guideline for the commercial property investment market published by the "gif" real estate research society). It is a transaction model applied to many properties, e.g. those owned by property developers who commit their assets into institutional fund vehicles for third-party (investor) capital. As a rule, however, such transactions are not publicised and are therefore invisible to regular market observers. Still, they are considered in this schedule wherever possible because they are quite substantial.

3.2.2
Investments by origin of buyer, 2015–2019, 2020*



*Evaluation includes transactions from the first half-year of 2020.

German Investors Dominate Investment Market for Logistics Real Estate

For the longest time, warehousing and logistics real estate were considered a niche product and worthwhile investment opportunity only for players with sound market know-how. Over the past years, however, foreign investors from other countries in Europe, Asia or North America steadily expanded their share of this market. By 2017, market players belonging in this group accounted for about 69% of all investments. The combined share of buyers from Asia and North-America dropped back to 19% (2019). Conversely, the share of European investors increased from 14% (2018) to 24% (2019). The figure is expected to be matched in 2020, too.

In fact, it is assumed—not least due to the coronavirus pandemic—that German investors in particular will account for nearly two thirds of all investments in German warehousing and logistics real estate. Other European investors, while coming in second, will trail far behind. The reason behind this is the shortage in alternative investment opportunities in other asset classes in conjunction with the surge in property prices. The growing interest among German investors culminated recently in the acquisition of Logistrial Real Estate AG (GARBE) by Union Investment for c. 800 million euros.

Generally speaking, it is safe to say that the trend reversal predicted by the previous edition of the logistics survey (rapidly increasing interest among domestic investors) has come to pass. Despite the regressive investment volumes of foreign investors, their interest in German logistics real estate has not waned, least of all among investors from elsewhere in Europe. Their stable market share of nearly one quarter suggests as much.

Domestic Investors Have Picked up Steam

As a result of the pandemic, German investors currently dominate the market for logistics real estate because the efforts by foreign investors to evaluate German investment assets are hampered by corona-related restrictions. But what makes the German market so popular among domestic and international investors in the first place? Here, the following factors come into play:

3.3 Investment Activity by Logistics Region

Germany's generally sound economic development of recent years together with the associated increase in gross value added and decrease in unemployment, among other factors, has helped to make the country a highly attractive destination. Some of the country's regions offer very interesting parameters that make investing a rewarding proposition. A sound infrastructure, attractive modern property developments, as well as a heterogeneous industry structure that has an easier time coping with times of crisis—these are key criteria when deciding whether or not to move forward with a given transaction.

Rhine-Main/Frankfurt Retains its Lead in Transacted Investment Volumes

In the current observation period of 2015 through 2020*, the Rhine-Main/Frankfurt logistics region once again ranks first in terms of investment volume. Runner-up is Dortmund. This is a logistics region that managed to move up three ranks over prior-year period. Düsseldorf, by contrast, dropped back one spot since the previous ranking, and now ranks third. It is followed by the Rhine-Ruhr logistics region, which also moved down a notch.

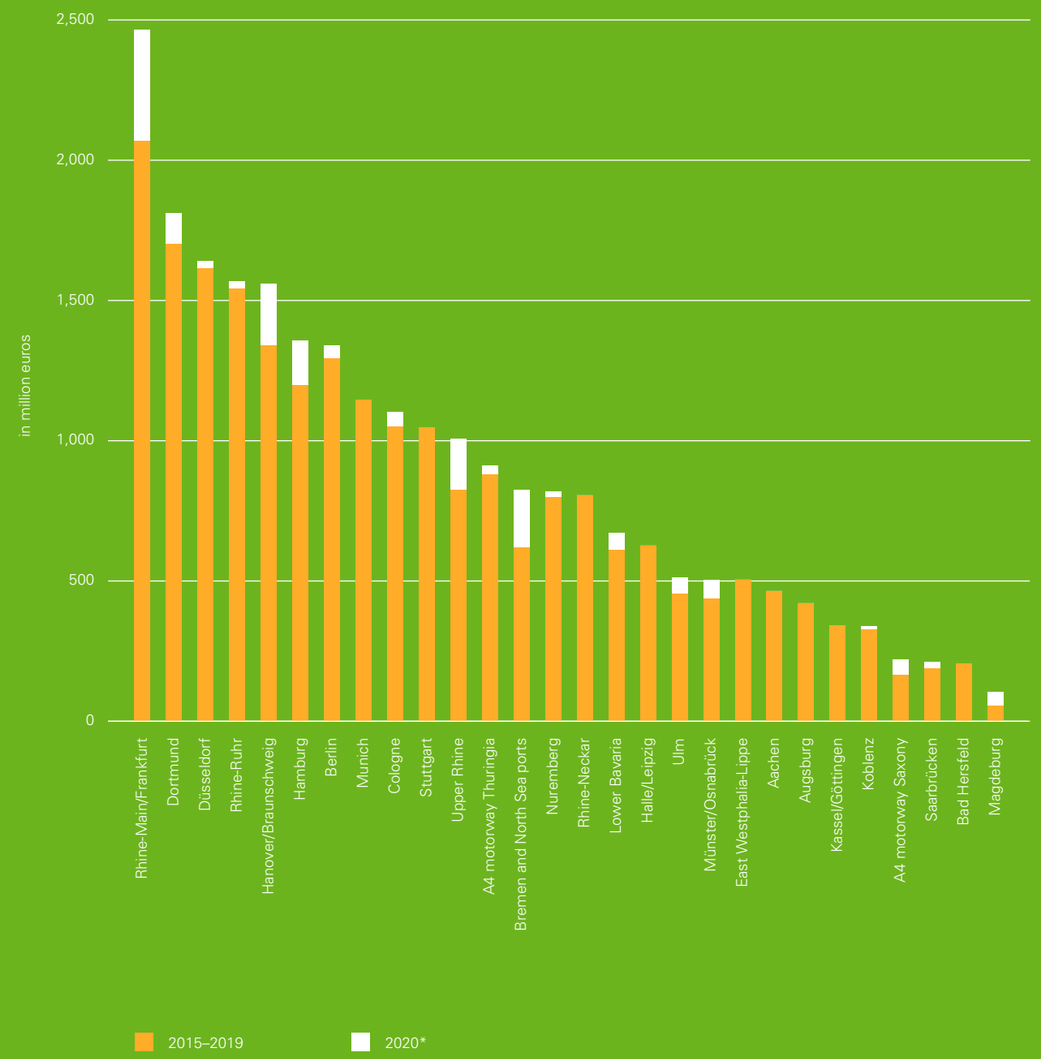
The completions figures in the Hanover/Braunschweig region demonstrate once again: This is a location of up-and-coming dynamic. It actually stood its ground in the 2020 ranking vis-à-vis the Hamburg logistics region, and made fifth place as a result. The German capital improved by one rank and is now ahead of Munich (place 8) in seventh rank. Cologne and Stuttgart maintained their positions, ranking ninth and tenth, respectively. Collectively, the top-10 logistics regions generated an investment volume of c. 15 billion euros during the period of 2015 through 2020.* Year on year, the top 10 were only reshuffled, with no change of composition. In other words, no new names were added, and none dropped out.

Rhine-Main/Frankfurt Effortlessly Topped the List for H1 2020

In the top-10 logistics regions, assets worth c. 1.0 billion euros changed hands during the first two quarters of 2020. Given the current market environment, which is defined by a shortage in investment-grade logistics real estate, it proved impossible to match the total of the prior-year period (1.5 billion euros). The Rhine-Main/Frankfurt logistics region once again led the field with a sizeable head start. Here, c. 400 billion euros have been invested to date. The regions next on the list are Hanover/Braunschweig (220 million euros) and Hamburg (160 million euros). It is safe to assume that the Rhine-Main/Frankfurt region will continue to claim the top spot going forward. Like in previous years, the region registered the highest investment volume during the first half-year of 2020 at c. 400 million euros. Compared to the mid-year total of 2019, the perennial star performer actually registered a 20 increase in investment volume.

By contrast, the other Big 6 or Big 7 cities are likely to have suffered setbacks, good cases in point being Munich and Stuttgart. Munich, for one, was particularly affected by the lack of suitable investment opportunities. On the whole, no major shifts are to be expected before the end of the year unless the present structures suffer serious changes as the year progresses.

3.3.1
Logistics regions by traded investment volumes, 2015–2019, 2020*



*Evaluation includes transactions from the first half-year of 2020.

The net initial yield (NAR) of the logistics regions in 2020*

Munich	**3.7%**
Berlin	**3.8%**
Hamburg	**3.8%**
Frankfurt	**3.8%**
Stuttgart	**3.9%**
Cologne	**4.0%**
Düsseldorf	**4.0%**

Wide Spreads Among the Logistics Regions

The net initial yield (NAR) of the logistics regions in 2020* underlines the popularity of the top regions among investors. The Munich logistics region, for instance, boasts the lowest NAR (just like last year) with 3.7%. Next in line are Berlin, Hamburg, Rhine-Main/Frankfurt (all 3.8%) and Stuttgart (3.9%), plus Cologne and Düsseldorf with 4.0% each.

Net Initial Yields Keep Hardening, but at a Slower Pace

In response to increased demand, the NAR hardened across all logistics regions between 2015 and 2019. During the remainder of 2020, yield rates are predicted to keep declining slightly or to start flatlining in virtually all of the logistics regions. The sharpest declines were registered in the regions Nuremberg and Rhine-Ruhr. By contrast, yield rates in more or less remote locations like Saarbrücken maintained their prior-year levels. Keen demand—coinciding with short supply—in the top locations has caused the investor focus to shift to regions with potential, such as A4 motorway Saxony or Münster & Osnabrück. Although these, too, registered drops by 20 and 40 basis points, respectively (Δ 2019/2020), their yield rates are on a substantially higher level than those of the top regions.

Despite the reduced net initial yield rates, logistics real estate—unlike office or residential real estate—still promises much higher revenues outside the Class A cities. Yet in these locations, regional market expertise is indispensable. Due to the developments in the retail sector (increase in e-commerce sales at the expense of in-store retailing), a persistently strong demand for logistics facilities is to be expected in the years to come. Generally speaking, the latest forecast suggest that logistics real estate yields are likely to stabilise on the current level in 2020.

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3.3.2

Stagnation of the Prime Net Initial Yields (NIY) in 2020*

Logistics Regions	NIY over a time period		Yield compression in basis points (2015–2020*)
Munich	5.4%	3.7%	165
Berlin	5.5%	3.8%	170
Hamburg	5.4%	3.8%	160
Rhine-Main/ Frankfurt	5.5%	3.8%	165
Stuttgart	5.7%	3.9%	180
Düsseldorf	5.6%	4.0%	160
Cologne	5.6%	4.0%	160
Bremen and North Sea ports	6.4%	4.4 %	200
Hanover/ Braunschweig	6.0%	4.4%	160
Halle/Leipzig	6.1%	4.5%	160
Nuremberg	6.8%	4.5 %	230
Rhine-Ruhr	5.9%	4.5%	140
Augsburg	7.4%	4.9%	250
Dortmund	6.5%	4.9%	160

Logistics Regions	NIY over a time period		Yield compression in basis points (2015–2020*)
Kassel/Göttingen	6.7%	5.1%	160
Lower Bavaria	6.8%	5.1%	170
Upper Rhine	7.6%	5.1%	250
Ulm	6.9%	5.2%	170
A4 motorway Saxony	7.2%	5.4%	180
Aachen	7.9%	5.4%	250
Münster/ Osnabrück	7.3%	5.7%	160
East Westphalia-Lippe	7.4%	5.8%	160
Koblenz	7.5%	6.0%	150
Rhine-Neckar	8.0%	6.1%	190
Saarbrücken	7.0%	6.4%	60
Magdeburg	8.7%	6.5%	220
Bad Hersfeld	8.7%	6.7%	200
A4 motorway Thuringia	8.6%	6.8%	180

2015 2016 2017 2018 2019 2020*

*Net initial yield, prime (NIY): H1 2020.

3.4 Sustainability as Basis for Long-Term Investment Decisions

"A sustainable property is supposed to be optimised in its energy consumption and ideally to be emissions-free."

Bertrand Ehm,
Director Industrial Investment, Savills Immobilien Beratungs-GmbH

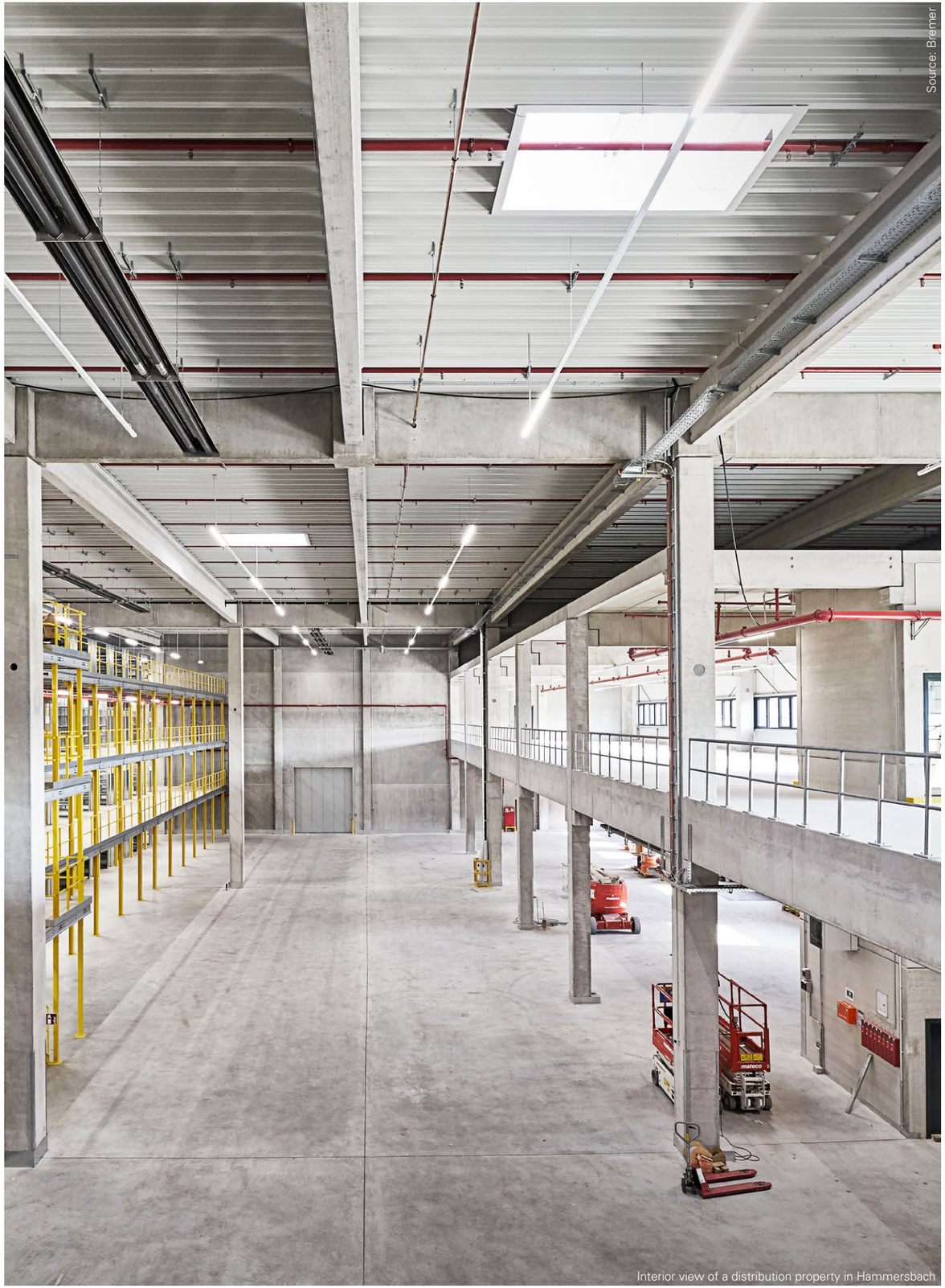
"Sustainability plays an increasingly important role in all segments of life—including long-term investment decisions. Ultimately, only sustainable real estate can be kept for a reasonable period of time. This involves forward-looking planning and a comprehensive strategy to cover issues such as refurbishment, adaptation or new construction, which in case of doubt will inevitably be on the agenda at some point in time. The decisive factor for investors when choosing such a strategy is to know that a sustainable hall does not necessarily have to be more expensive and that it is possible, for example, to save on ancillary costs or to generate more energy than is needed.

So, what does a sustainable logistics property look like? The basic rule is: A sustainable property is supposed to be optimised in its energy consumption and ideally to be emissions-free. Moreover, the question of alternative use potential plays a key role here. The two factors need to be studied together because they are dovetailed. Under the sign of sustainability, a number of factors need to be taken into account:

- the flexibility of the building structure, ensuring that units are suitable for various industries
- the selection of location and site: Here, the proximity to infrastructure and the customer plays a key role in order to avoid excessive distances and the emissions they cause.
- the entire energy consumption during the life cycle of a logistics property
- the integration of e-mobility and associated facilities
- the recyclability or sustainability of building materials

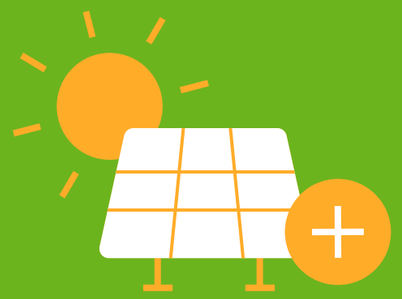
The topic of sustainability is becoming more important and investors want to buy DGNB or LEED certified properties more and more often. At the moment, certification of hall space will probably not yet become a fix standard for rentability. However, there are more and more occupiers that either want or must rent energy-optimised and certified properties—be it due to their own guidelines or those of their clients. This makes it important to consider the above-listed aspects collectively. Overall, sustainability is absolutely desired—both by politicians and by society.

Let's take a look at possible measures to increase the sustainability of logistics real estate, such as photovoltaic systems: Most investors see this as a positive contribution to sustainable real estate. Furthermore, energy production on-site could by all means become a standard feature. In addition to photovoltaic systems, it could involve wind power, combined heat and power plants and heat pumps. But other technologies could gain in significance as well: Solar thermal energy, for instance, is barely used today, but when combined with smart heating systems, it could deliver considerable value-added. More or less the same can be said for the subject of rainwater harvesting. Another idea would be to make greater use of sustainable or recyclable building materials."



Interior view of a distribution property in Hammersbach

Chapter 04 /



Photovoltaic Systems Imply Value-Added for Logistics Properties

4.1 Significance of Photovoltaics for Electricity Generation in Germany

Photovoltaic systems, or PV systems for short, represent an essential element of future greenhouse-gas-free electricity production. They can contribute in decisive ways to the expansion of renewable energies within the Europe-wide electricity grid. As promising as the technology of generating electricity from solar irradiation is, many stakeholders still have reservations about PV systems—concerning aesthetic, energetic, economic or regulatory aspects.

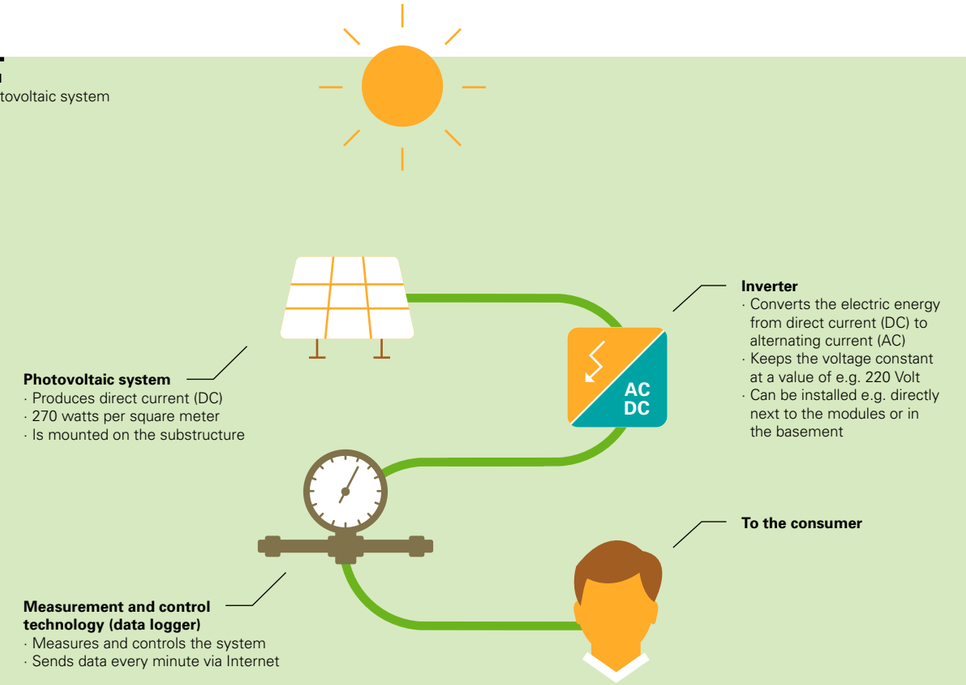
Unlike other forms of energy production, the positive long-term energy footprint of PV systems does not materialise right away. As with so many other things, the rule applies: There is no profit without investment. In this case, you need to invest in the production of the system as such before you can hope to generate energy. The Fraunhofer ISE institute, for instance, estimates that it takes no more than 1.5 to 2.5 years to recover the energy required to manufacture a PV system. Bearing in mind that their service life span is up to 40 years, the energetic Break-even-Point is reached within a short period of time. When you look at the materials that go into the construction of photovoltaic modules you will find that barely any rare commodities are used. The silicon used is abundantly available in many places, and the modules are subject to the EU RoHS directive (Restriction of Hazardous Substances). The latter bans the use of certain hazardous substances in electrical and electronic equipment, such as cadmium or mercury, among others.

The share of electricity produced in Germany by photovoltaic systems has gone up steadily in recent years. In 2019, electricity generated by PV systems already covered 7.8% of the gross power consumption in Germany. The average annual growth between 2010 and 2019 was upward of 17%. On sunny days, PV systems can reach a peak performance equal to over 50% of the actual electricity consumption.

While this development is no doubt to be welcomed as it rolls back the importance of established fossil fuels, it is not solely driven by the free market economy. Rather, it was the German government that ensured market maturity for photovoltaics by introducing a selective surcharge under the Renewable Energy Sources Act (EEG). Initially PV system were unable to compete with fossil energy sources. Today, PV systems count among the most affordable and environmentally friendliest of any type of energy generation. The road to a greenhouse-gas-free electricity production, however, is paved with stumbling blocks: Remunerations that made the operation of PV systems quite lucrative as recently as 20 years ago are about to expire. The fixed feed-in tariff will be rescinded, so that in subsequent years, market-economy aspect will have a stronger influence on the installation of PV systems. We also need to consider a current regulatory lacuna concerning EEG-sponsored systems whose subsidy program of 20 years will end as of 1 January 2021.

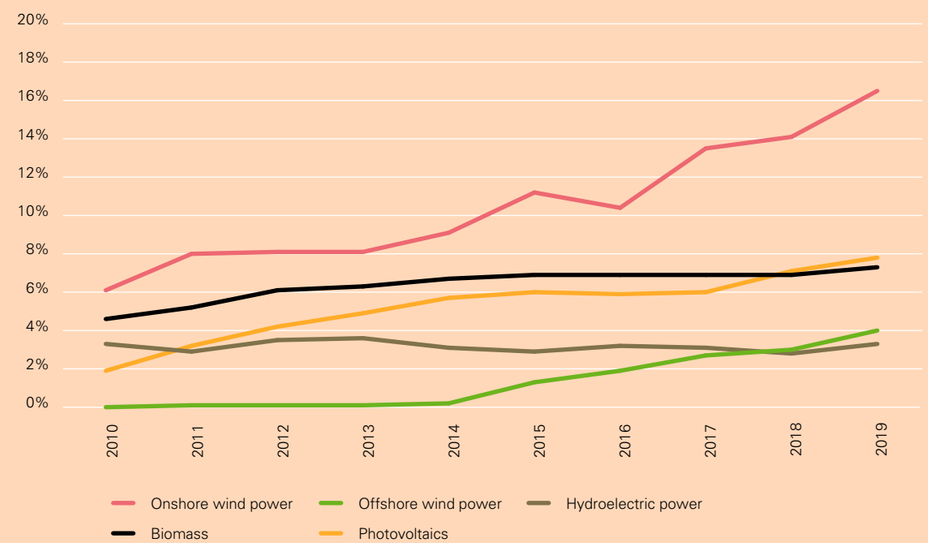
Another steering instrument that has influenced the operation of PV systems is the so-called photovoltaics cap. Introduced in 2012, the cap stipulated that the remuneration of small-scale plants of up to 100 kW under the EEG will cease once the nominal output from PV installed capacity nationwide reaches 52 GWp. By the end of 2019, the Federal Network Agency quoted a PV installed capacity of around 49 GWp. On 3 July 2020, however, the Upper House of the German legislature (Bundesrat) resolved to abolish the PV cap. It is a sign that the German Government intends to consciously promote investments in PV systems. >

4.1.1
Photovoltaic system



Source: Power Asset Core Energy GmbH/GARBE Industrial Real Estate GmbH

4.1.2
Share of renewable energy sources in gross electricity generation in Germany



Source: Federal Ministry for Economic Affairs and Energy, 2020, "Zahlen und Fakten Energiedaten"

Building shells, roofs and façades offer great potential for the installation of PV modules, with the added advantage of sparing the use of agricultural land. According to estimates, around 50% to 60% of the logistics properties with membrane roofs could support PV systems. Exploiting this potential would generate a substantial amount of electricity. The Federal Environment Agency (UBA) believes that the potential for PV roof systems equals an installed capacity of around 134 GWp. This compares to a currently installed capacity (roof- and ground-mounted PV plants) of 51.5 GWp (Federal Network Agency, as of June 2020).

A look at the existing properties of GARBE Industrial Real Estate shows: The roofs of these properties alone could have an installed capacity that more or less equals the capacity of the "Tiefstack" coal-fired power station in Hamburg, which is more than 200 MW. Figure 4.1.3 shows how much CO_2 could be saved.

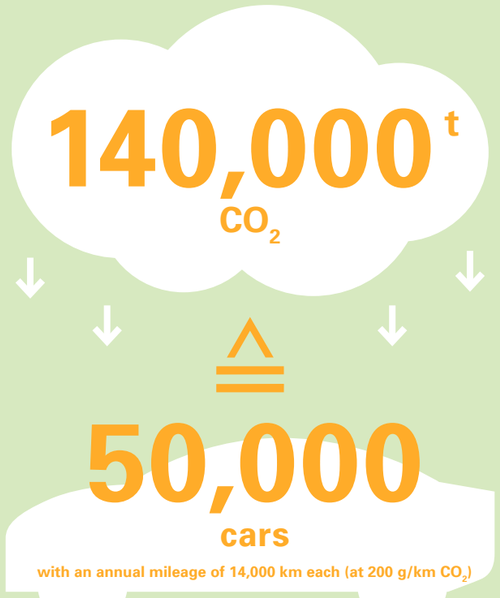
What Aspects should be Considered when Installing and Operating a PV System?

Certain things need to be borne in mind when selecting the optimal type of solar module and undertaking the necessary construction works. It is recommended to contract a specialised business that is experienced in the installation and operation of PV systems. The following overviews outline the aspects that play a role in the installation and operation of photovoltaic systems.

4.1.3

What would be the CO_2 savings thereby achieved?

140,000 t CO_2 equivalent p.a. ≙ 50,000 cars with an annual mileage of 14,000 km each (at 200 g/km CO_2)



Source: Power Asset Core Energy GmbH/GARBE Industrial Real Estate GmbH

Installation of the plants	Optimal approach
Roof loads and roof condition	Any roof should be checked and appraised by a structural engineer. In addition, an expert opinion should be compiled to appraise the quality of the roof. One expert opinion each should be compiled prior, during and after the installation of a PV system in order to document whether and, if so, which damages were caused by the PV system or its installation.
Penetration of the roof membrane	Present-day technologies permit penetration-free installations. This means that the roof membrane is not compromised. Apart from that, the contracted installation firms should be specialised in membrane roofs.
Damages sustained during the PV installation	Expert opinions help to identify the causes for any damage done during the installation. The contractor installing the PV system is liable for any damages to the inside/outside of the building caused during the installation.
Impairment of the warehouse occupier	As a rule, PV systems are installed from the outside, using a cherry picker. Impairments of the warehouse occupier are therefore not to be expected. Brief interruptions of the power supply system during the installation work will affect the operation only for a few minutes and can often be done after hours. The companies operating and installing PV systems will only require access rights to the site and to the building's electrical system, subject to coordination.

Source: shutterstock

Solar panels on the roof of a commercial property

PV plant operation	Optimal approach
Local weather and exceptional snow loads	PV systems have a protective effect for the roof membrane because it is exposed to much less UV irradiation or to none at all as a result. Even on the edges, the progressive shifting of shaded areas in the course of the day will result in a more gradual ageing of the roof membrane compared to the normal wear and tear without an installed PV system. The responsibility for handling exceptional snow loads on the roof should be contractually agreed in detail between property owner and PV operator.
Technical supervision of the PV system	Using a SIM card, PV systems can be linked to the operating centre of a certified company in real time and monitored around the clock. Once a year, the system should be serviced and inspected in situ. The servicing could be combined with the roof maintenance to minimise the number of workers on the roof. The technical supervision and the maintenance of the PV system is usually handled by a service provider specialised in membrane roofs.
Insurance policies	A PV insurance should be taken out for the PV system that covers liability for material damages sustained by the PV system including its power inverter and load-bearing structure. Such insurance policies tend to protect against theft-caused damages, too. Public liability insurance policies cover possible damages caused by the operation of the PV system. The company that underwrote the existing building insurance must be notified of the installation of a PV system. If the insurer responds by raising the premium, the PV operator should agree to pay for it.

What to do when ...?	Exit solution
Dismantling of the PV system	PV systems can be dismantled within 8 to 16 weeks (depending on their scale). The dismantling costs are usually covered by the PV operator.
Temporary removal, e.g. roof refurbishment	During a roof refurbishment, the PV operator usually covers the costs for the partial removal of the plant.
Sale of the property	All PV systems are considered operating equipment. If the PV system is operated by a **third party**, the PV system represents a sham component that is not part of the property's appraisal object. However, after the sale of the property, the lease/leasehold agreement transfers to the incoming owner, just the way it would with a "normal" tenant.
Short remaining useful life of the building	It should be ensured that the remaining useful life of the building is at least as long as the term of the leasehold agreement including a possible renewal option. Long-term leasehold agreements should not be signed for buildings that have only a brief useful life left.

4.2 Latest Developments and Value Added for Property Occupiers

Germany's new Building Energy Act (GEG) published on 13 August 2020 and effective as of 1 November 2020 further strengthened the creditability of PV electricity generated in geographic proximity. The GEG represents an omnibus law combining the Energy Saving Act (EnEG), with the Energy Saving Ordinance (EnEV) and the Renewable Energies Heat Act (EEWärmG) into a homogeneous set of rules. Pursuant to the new law, new-build construction projects can have up to 45% of the installed PV capacity credited against the primary energy demand of the respective warehouse. The annual primary energy demand remains the fixed main requirements metric to determine the energy efficiency of a given building.

As a rule, property owners in the logistics real estate sector rarely operate photovoltaic systems in their own right. If they did, the operation of in-house plants would create the threat of eliminating any trade tax exemption. This means all business activities intrinsically related to the property would be reclassified as commercial activities and become subject to trade taxation on top of the other corporate taxes. In order to avoid the additional burden, the operation of PV systems is generally delegated to subsidiaries or third-party providers. In the case of third-party-operated PV systems, the property owner collects a rent or ground rent from the operator. Depending on the business model, the operator is at liberty to feed the generated electricity into the local power grid and is paid a remuneration governed by the Renewable Energy Sources Act (EEG) unless the operator prefers the direct marketing option.

In general, Germany's planning permission policy for photovoltaic systems distinguishes between full feeders and surplus feeders. Full feed-in means that the entire electricity generated is fed into the local power grid. By contrast, the surplus feed-in model combines the on-site consumption of electricity with the grid feed-in of excess electricity. Under this model, the warehouse occupier is sold the generated electricity at a fixed rate. This electricity price tends to be lower than the local market rate. However, the surplus feed-in model should not be confused with the colloquially used term "tenant electricity."

Tenant electricity *The term "tenant electricity" refers to electricity that is generated by solar arrays mounted on the roofs or in the immediate vicinity of residential buildings, and that is directly supplied to, and consumed by, the end consumer without any grid feed-in. Tenant electricity is promoted via the so-called tenant electricity surcharge, with the plant operator collecting a surcharge financed via the EEG apportionment.*

For the occupier of the property, purchasing locally produced solar power can translate into tangible financial benefits. As detailed above, the disadvantages are negligible because the operators of a photovoltaic system cover both the ongoing running costs and any additional costs (caused e.g. by its removal during a roof refurbishment, by snow clearance or by its dismantling at the end of the leasehold agreement). One of the financially most obvious advantages is that the occupier benefits from the attractive rate paid for the purchased electricity, which is significantly lower than regional market prices. As a rule, the occupier is offered the electricity from the PV system at a subscription price that translates into considerable cost savings for the logistics operation.

4.3 The Appraisal of Photovoltaic Systems from a Financier's Point of View

The appraisal of a given logistics property should take installed PV systems into account. Since PV systems operated by the property owner are the exception, the systems are commonly owned by a third-party operator who leases the required roof surfaces, usually for the time of the remuneration period under the EEG (plus renewal options, where applicable).

Because of the high capital expenditures for a PV system and the long-term business model involved, the system operator—and often the bank financing the PV system as well—may additionally secure the right of use agreed under private law (lease agreement) via a restrictive easement (solar easement). This guarantees to the operator or to the bank that is financing the PV system the right to keep using the leased land on the basis of the easement, even if the private-law lease agreement no longer exists, which could become relevant, for instance, after a termination for cause in the event of a foreclosure sale or an insolvency.

In such cases, the chartered surveyor should therefore principally appraise the leasehold agreement, the contents of solar easement and the profitability of the PV system. The appraisal can also consider the additional income the property owner derives from leasing the roof area to the operator. In this context, however, one needs to distinguish between the fair value appraisal and the mortgage lending valuation. To determine the market value, the ground rent paid under the lease could be taken into account as surcharge on the rent for the duration of the lease term. However, since ground rents for roof space are relatively low compared to the logistics rents (historically, about 1% to 3%), the potential appreciation caused by the extra ground rent will be relatively low as well.

The appraisal of the mortgage lending value calls for a more cautious approach because the long-term development of rooftop solar leases is still fraught with uncertainty. In sync with the regressive EEG remuneration, ground rent payments have also followed a reverse trend in recent years. With this in mind, an approach that derives the sustainable income from a rooftop solar lease via the remaining useful life of the building would still contain an element of speculation at this time. Lately, however, a plateau seems to have been reached, making it a realistic proposition to take ground rents into account at some point in the future. Unless unusual circumstances come into play, such leasehold relationships can normally be recognised within the framework of current mortgage lending valuations without net-effect on value.

The appraisal of the particular implication for the value always necessitates a case-by-case approach, in which the surveyor analyses and appraises the leasehold agreement and the solar easement, if any has been created. In addition to quantifiable advantages, appraisals also consider aspects of subjective nature, such as image benefits. Whether and to what extent such circumstances can be credited with a value-enhancing effect depends on the market situation but is also left to the surveyor's discretion. >

In the case of PV systems that are managed by operating companies affiliated with the property owner, the latter expands its business models by generating additional income from electricity sales, e.g. to the occupier (tenant) of the logistics property, or by feeding the electricity into the grid. But since this operator scenario is structured precisely for the purpose of separating the property from the PV system for tax reasons, its revenues cannot well be credited directly to the property despite demonstrable benefits for the occupier (e.g. cheaper electricity).

Let us take a closer look at an aspect of major significance for real estate lenders: In cases where a solar easement is created for the purpose of securing a long-term leasehold agreement to the detriment of the subject plot, it is of the essence to make sure that it contains no provisions that would lower the mortgage lending value of the property. Neither the PV operator industry, nor the real estate industry in Germany are yet fully aware of the issue. If, for instance, the easement is not struck off after the expiration of the lease and if no maximum amount as compensation for value pursuant to Art. 882, German Civil Code (BGB), has been agreed in the event of a foreclosure sale, this may result in a high "prior charge" that would seriously impair the mortgage lending value. It is in the common interest of property owner, PV operator and financing bank to avoid this by closely coordinating such arrangements ahead of time. Doing so is also a good way for financial institutes to support the active contribution of PV systems to the effort to achieve the European climate targets.


Source: shutterstock

Solar panels on the roof of a logistics property

Possible criteria to appraise the effect of third-party operated PV systems on leased warehouse roofs for the property value

Sector Criterion ***Explanatory note***	**Example for low/ no impairment**	**Example for grave impairment**	**Notes**
Development rights Plot/ development rights reserve ***The provisions of a given SE or LHA could keep legally approved plot/development rights reserves from being exploited.***	No plot/development rights reserve available.	The regulations deny sensible additional development/addition of extra floors under the applicable building law.	
Building Statics ***The weight of a subsequently installed PV system may burden the structural stability of the building to the point where it would support no additional loads.***	Relatively small rooftop PV plants will barely compromise the structural safety of the building. The load-bearing capacity of the roof may also be sufficient to support the additional weight of the PV system.	The load-bearing capacity of the building will have to be reinforced to support the installation of a rooftop PV plant.	A structural engineering expertise will have to be obtained to substantiate that installing a PV system will not compromise the building's load-bearing capacity.
Building Type of construction/state of repair ***The building's RUL, based on its type of construction and state of repair, must be at least as long as the planned service life of the PV system.***	As-new light industrial buildings tend to have a RUL of about 35 years.	Obsolete designs, even if structurally sufficient, have only an (economic) RUL of 15 years. The property's potential (e.g. demolition/ new-build construction) cannot be exploited if a PV system is installed.	At the time the PV system is installed, the RUL of a given building must be at least 25 years.
Contract Leasehold agreement ***According to law of obligation, signing of a lease agreement is necessary as basis for the use of a third-party-operated PV system.***	A legally flawless agreement setting forth fair rules to govern the use of the PV system is in place.	Only an oral leasehold agreement or none has been concluded.	Selected criteria of the agreement are outlined below. A SE alone (without agreement) is insufficient.
Contract Ground rent payment ***A periodic ground rent payment over the entire contract period keeps a legal successor of the real estate owner from having to suffer the impairments caused by the PV system without consideration.***	Periodic ground rent payments have been agreed for the term of lease.	A one-off payment for the entire term of lease has already been paid.	

Acronyms: SE = solar easement; LHA = leasehold agreement; RUL = remaining useful life

Source: based on the German VDP standard but supplemented and adapted for logistics real estate

Sector Criterion *Explanatory note*	Example for low/ no impairment	Example for grave impairment	Notes
Contract Ground rent amount ***The ground rent amount should be reasonable and either take the form of a (periodic) fixed amount or in proportion to the respective feed-in tariff.***	The ground rent amount is reasonable and a fixed periodic payment agreed.	The ground rent agreed is too low (in absolute and/or relative terms).	A fixed amount is preferable because it will have to be paid even if the PV system is down, e.g. for repairs. The absolute ground rent amount should be taken into account.
Contract Term of lease ***The term of lease should be reconciled with the term of the SE and the duration of the EEG remuneration (currently the first year of operation plus 20 years).***	Term of lease is 20 calendar years plus the first year of operation.	Long terms of lease (e.g. 30 years) in combination with a renewal option (e.g. two 5-year options) could cause the PV system to be reclassified as an essential component—with all the unintended ramifications and obligations this would entail.	Please note: Renewal options or similar may jeopardise the legal categorisation as sham component (making it subject to collateral assignment) and could inadvertently cause the PV system to become an integral component of the building/plot.
Contract-related liability issues ***The property should not be liable for damages or loss of revenue sustained by the PV system.***	Inversely, the PV operator is liable for any damages to the building caused by the PV system (even if properly operated).	In the event of repair work on the building, the property owner has to shoulder the costs of removing and re-installing the PV system as required for the works. In addition, the property owners must reimburse the PV operator for the resultant loss of income.	Proof of insurance (incl. registration or cession of the insurance, where applicable) to cover the risks caused by the PV system are mandatory (so-called all-risk insurance, public liability insurance).
Contract Servicing/maintenance ***Clear rules to govern the costs of servicing and maintaining the PV system***	The operator will shoulder all costs associated with the servicing, maintenance and operation of the PV system (e.g. snow clearance).	The owner incurs costs/ significant restrictions (e.g. from scaffolding) in connection with the servicing/maintenance/ operation of the PV system.	
Contract Obligation to dismantle ***Arrangements to ensure that the PV system is completely dismantled and properly disposed of at the end of the lease period.***	An operator with sound credit rating provided sureties for the dismantling and disposal of the PV system.	No arrangements for sureties toward the dismantling and disposal of the PV system are in place.	

Sector Criterion *Explanatory note*	Example for low/ no impairment	Example for grave impairment	Notes
Solar easement Term/release ***It should be ensured that the property owner is released from a given SE at the end of the agreed service life of the PV system, e.g. via a condition subsequent or a fiduciary solution.***	The release from the SE is granted in trust in the event the lease expires.	The SE contains no provision governing its release.	
Solar easement Remuneration ***The SE should include a remuneration provision in the event that the PV system is operated even without a leasehold agreement, i.e. solely on the basis of the SE.***	If the leasehold agreement lapses a remuneration in the amount of the former ground rent becomes due.	The SE contains no remuneration provision.	
SE/LHA—debt obligation to the financing bank ***The parties should enter into a commitment in which they bind themselves to the contents of the SE (in rem) vis-à-vis the financing bank under the law of obligation.***	The SE contains a debt obligation to this effect.	Neither the LHA nor the SE contain a corresponding provision.	This obligation gives the bank a direct claim to injunctive relief under the law of obligations against the obligated party and the beneficiaries (in analogy to a tenant easement).
Solar easement Maximum amount ***In the event that the registered senior SE expires, a maximum amount pursuant to Art. 882, German Civil Code (BGB), should be agreed.***	In the event that the solar easement expires in conjunction with a forced sale, the obligated party agrees to file for a maximum amount of 10,000 euros.	Since no maximum amount was agreed, the obligated party may file for an amount equal to 25 times the (agreed) annual ground rent if the SE is cancelled.	Please note: An agreement over a maximum amount does not necessarily imply that the amount of the impairment is limited to the agreed maximum amount.

Acronyms: SE = solar easement; LHA = leasehold agreement; RUL = remaining useful life

Summing up, it is safe to say that, if the above requirements regarding content and form of the lease agreement and the solar easement are met, the third-party operation of a PV system on warehouse roofs will not compromise the mortgage lending value of the property.

As far as the market value goes, the installation of a PV system may actually cause the property to appreciate, as the income from leasing the rooftop may be taken into account. However, empirical evidence suggests that this sort of value lever is limited to about 2%.

What sort of ground rent income is to be expected?

Since the remuneration rates under the EEG for newly installed systems have declined steadily over the past years, the market-standard ground rents for rooftop surfaces have not maintained a fixed level, but have been following a downward trend. However, the curve appears to be levelling out now, and the going rate is expected to stabilise on a base level of 4.00 euros/kWp per year.


Source: shutterstock

Solar panels on the roof of a property near the port

4.4 Future Developments in the Real Estate Industry, Politics and Legislation

Photovoltaic systems contribute in decisive ways to the climate policy goals both on the level of the European Union and on the national level of Germany. They represent one of the core elements for a stringent CO_2 reduction in line with climate protection measures, and have been embraced by a growing number of real estate industry players.

Project developers, occupiers as well as investors increasingly demand photovoltaic systems, the idea being to ensure sustainable power generation on-site. The collaboration of logistics player GARBE Industrial Real Estate and Berlin Hyp as co-financing bank has shown that stepping up the installation of more photovoltaic systems on warehouse rooftops is feasible and purposeful.

After all, PV systems are a forward-looking investment. They put today's decisions on a securely sustainable footing, and are in accordance with the report on the EU taxonomy about sustainable finance.

Sustainable Finance Action Plan of the EU:

- The CSR Directive is to be supplemented by climate protection details
- New disclosure requirements are to be introduced for companies in the context of the non-financial statement, including quantifiable metrics
- Financial market players are to categorise portfolios according to environmental criteria and to label green finance products
- Capex and opex are to be recognised using these criteria
- Green Finance = all activities that make a substantial contribution to the environmental goal
- First disclosures by financial market participants

Collective Demands Addressed to the Industry/Body Politic and Legislature
Slowing the monthly feed-in tariff reduction to 0.5%
Hosting separate feed-in tariff auctions for rooftop PV systems, or alternatively lifting the 750 kW limit for rooftop PV systems
Amending the Renewable Energy Sources Act (EEG) in regard to tenant electricity: Expanding it to include commercial businesses and to abolish/raise the output limit for tenant electricity
Preparing new-build units for PV installation, leaving dedicated space in the service entrance equipment room, laying empty conduits, enlarging transformers (not least with a view to e-mobility growth)
Introducing an economically and legally viable regulation for legacy PV systems no longer eligible for EEG subsidies (currently a regulatory lacuna)

4.5 Sustainable Properties are More Fungible and Tend to Have Higher Mortgage Lending Values

“Sustainable properties often have a higher remaining useful life (…)”

Assem El Alami,
Head of Real Estate Finance, Berlin Hyp

“A sustainable logistics property is defined by a lower consumption of resources and a less adverse environmental impact throughout its life cycle. In addition, the long-term usability of such a property should be ensured through the selection of an optimal location, a high alternative use potential, low management costs, and measures to ensure its lasting value. The latter objective is achieved, for instance, by energetic modernisation or adherence to circular economy concepts or similar. One of the most important aspects for us is the energy efficiency of a given logistics property, recognised in the form of an energy performance certificate or an LEED, DGNB or BREEAM certificate.

For borrowers, sustainable logistics real estate has its own benefits. Because of their long-term viability, they come with fewer risks and are preferred by lenders. Moreover, they are characterised by a higher fungibility and tend to have higher mortgage lending values. Assuming a sustainable property requires financing, it is likely to qualify for better funding terms than a conventional logistics property without a green footprint. Add to this the image benefits that a sustainable logistics property generates for the borrower. It is with this in mind that Berlin Hyp offers its financing arrangements for green properties with incentives of up to 10 basis points.

Sustainable properties often have a higher remaining useful life and are more fungible—an aspect that was highlighted during the times of crisis. Yet there is no way to quantify the impact that sustainability has on a property’s value—because this will always require a case-by-case appraisal by a chartered surveyor. Then again, it is safe to say that the factors driving the mortgage lending value are increasingly associable with sustainable real estate.

We firmly believe that sustainable properties will keep gaining in significance in the wake of the reorientation effort to achieve the EU climate goals. The requirements in the area of sustainable real estate are tightening steadily as a result of legal rules and growing expectations on the part of the customers and the general public. Logistics real estate that fails to meet these criteria will be pushed out of the market eventually. That being said, we need to differentiate: This clearly defined trend applies primarily to new-build construction. Existing properties require more scrutiny. Options include the revitalisation of a given property as a viable alternative to razing and rebuilding from scratch.

To master the transition to a sustainable economy in accordance with the EU action plan, it is up to each stakeholder to actively collaborate and to contribute. Sustainable finance is an important keyword in our business sector. Our activities focus on the big goal of achieving climate neutrality by 2050. To this end, we recently defined a whole package of measures that will pave the way for a successful transformation of the buildings sector. By 2025, we want our combined loan portfolio to have a green building share of one third. We also strive to achieve full transparency regarding the climate performance and climate risks of our portfolio for that same year of 2025. This level of transparency will be instrumental in our successive effort to help our clients accomplish the transformation. To this end, we are currently developing a transformation loan specifically for financing energy refurbishments.”

Source: shutterstock

Close-up of a photovoltaic roof system

Chapter 05 /

Outlook for Sustainable Logistics Real Estate

Share of Sustainable Real Estate Indicates Additional Potential

The vast majority of stakeholders agrees that sustainability is an important and desirable goal, including for logistics real estate. The chapters above discussed the aspects that play a special role, and the measures that could be considered instrumental in the effort to boost sustainability. The opening summary of the status quo will be followed by an outlook on the subsequent pages. Which aspects will play a decisive role going forward? And how do logistics properties position themselves vis-à-vis the short supply in development land in many parts of Germany, especially with a view to municipal settlement policies?

// In our opinion, sustainable real estate is essentially characterised by socially responsible and environmentally friendly construction projects combined with the lowest possible land consumption and the high energy efficiency of the building. Moreover, such properties should be built for long-term use. Sustainable real estate is also defined by the integration of modern transport concepts and the revitalisation of brownfield sites, where applicable. It is particularly important for logistics real estate to avoid further soil sealing and environmentally damaging pollution.

City of Aachen,
Department of Commerce, Science and European Issues

According to the estimates of the market players interviewed, around 30% of German logistics real estate qualifies as environmentally sustainable even today. The quantitative assessment is largely shared by all real estate market players (developers, investors and lenders). Only the representatives of towns and cities quote a slightly lower share. It is important at this point to appreciate the different experiences and definitions of sustainability. The survey intentionally avoided a strict definition of sustainability for logistics real estate in order to bring out the full spectrum of subjective opinions. The answers provide an insight into the extent to which sustainability awareness is already anchored in the logistics real estate sector. Property developers assume that a large share of the properties now on the market is already sustainable. The assessment could reflect the self-confidence within the industry. It contrasts with the view among German municipalities, who consider a much lower percentage of the real estate sustainable, and whose message reads: There is still a vast potential for implementing sustainability in the country's business areas. Redevelopments of existing buildings and/or brownfield developments, for instance, could be part of a tested approach to raise the share of sustainable real estate.

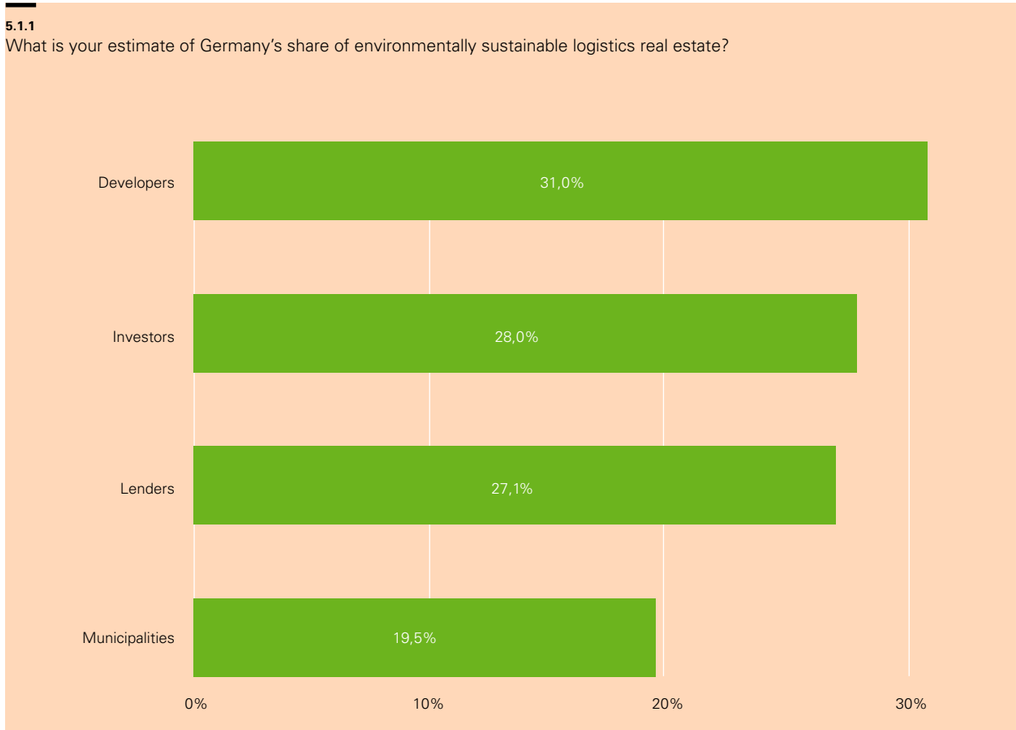
// The intensifying focus on sustainability among policymakers, administrative bodies and the general public helps us field the right arguments vis-à-vis interested market players. Worth noting is that some stakeholders seem to have an easier time endorsing sustainability aspects with externally induced projects than they do with the projects of clients already established in a given region. We are delighted to see, in any case: More and more owner-occupiers, including those within a given region, lead the way with bright ideas of their own.

Michael Krohn,
Wirtschaftsförderungsgesellschaft Deltaland >

30%

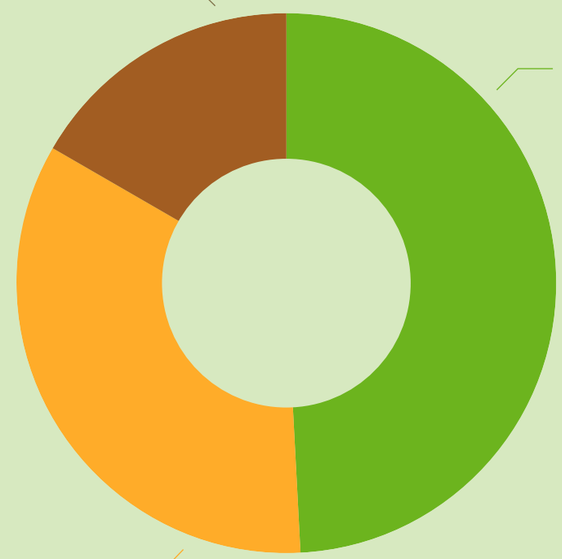
of logistics real estate can already be described as ecologically sustainable (estimate)

5.1.1
What is your estimate of Germany's share of environmentally sustainable logistics real estate?




Source: Bremer
Outside view of a modern new logistics building

5.1.2
Which statement regarding municipal settlement policies are you most likely to agree with?



Source: Bremer
Outdoor view DHL Paderborn

What are the Reasons Motivating the Development of Sustainable Logistics Real Estate?

When it comes to the development of large-scale logistics real estate—whether as greenfield development or as brownfield redevelopment—many different aspects interact. One of the most prominent and frequent misgivings is the high consumption of land. Sometimes, the relatively high consumption of surface area can even be a knock-out criterion when requesting a planning permission in towns where sufficient land reserves have been (or could be) set aside by the municipality. Conversely, there are also a number of positive effects that speak in favour of bringing in a logistics operator. Especially environmentally sustainable properties underline this value-added for the regional economy and general public.

// The sustainability of a logistics property plays an important role for the approval of its development because the City of Aachen declared a climate emergency. This means that all administrative decisions need to be checked for climate compatibility. This increases the level of acceptance for sustainable development projects.

City of Aachen,
Department of Commerce, Science and European Issues

Environmental Sustainability and Settlement Policy

In addition to incentives for the regional economy that are associable with the introduction of logistics operations, the environmental sustainability of a property will play an increasingly important role. There is reason to assume that sustainably designed logistics properties will generally meet with higher acceptance when it comes to awarding commercially zoned land to businesses. In this context, we asked the panel of experts for their opinion on, and experiences with, the settlement policies of German municipalities. Around 49% of the respondents believe that the environmental sustainability of a given property increases the willingness to accept a logistics development, while around 34% actually consider environmental sustainability a sine-qua-non criterion for awarding development land. Interesting to note, nearly 43% of the respondent representatives of municipalities consider the compliance with sustainability aspects as indispensable.

// For starters, the municipality should definitely come up with a regional master plan that addresses the land shortages in a sensible and market-consistent way. So-called sustainable properties can certainly help to raise the level of acceptance for new logistics sites, on the one hand, and, on the other hand, increase the multi-functionality and resilience of properties and as a result make them more eligible as an investment.

Michael Krantz,
Wirtschaftsförderung Hanover Region

Well Suited Sites Found in Many Parts of Germany

Against the background of deepening land shortages in Germany's densely populated areas and top logistics regions, new logistics sites are increasingly created in peripheral regions of the country, too. Although such sites often still fly below the radar of property developers and investors, they can offer best-of-class conditions for the successful set-up of logistics operations. To evaluate the suitability of these potential locations, a scoring of districts nationwide was undertaken that quantifies some of the key factors characterising an attractive logistics location. The following criteria and underlying assumptions were taken into account to this end:

Motorway Density:
Access to the inter-regional road network is a key criterion for any development project in the logistics sector. In addition to the absolute number of motorway kilometres, the proximity to these long-haul routes are the primary factor for choosing a logistics development site. Underlying the analysis was the assumption that the interest of a logistics firm in settling in a given district increases in proportion to the motorway density in that district.

Population within a 50 km Radius:
The greater the population within the surrounding area, the larger the consumer market that lies within reach. In other words, a larger number of residents in the catchment area of a given location enhances its suitability. >


Source: Bremer
Multi-user logistics center in Dieburg

Unemployment rate:
The availability of labour is a key prerequisite for a site's capacity to handle typical logistics processes. If the unemployment rate is high, the availability of labour is correspondingly high.

Gross Value Added per Capita:
For locations with a comparatively low economic strength, hosting logistics industry operations presents an opportunity to boost the momentum of the local economy.

The cartographic overview clearly reveals that Germany's major urban agglomerations, such as the Rhine-Ruhr and Rhine-Main metro regions, the greater Berlin and Hamburg areas along with their integrated conurbations, are highly suitable for logistics operations. In all of these places, a large suburban population coincides with excellent infrastructure-related amenities. In North Rhine-Westphalia, attractive key regional cities are found primarily in the Ruhr. Specifically the districts of Recklinghausen, Herne, Gelsenkirchen, Bottrop and Oberhausen are cases in point. Industrial brownfield sites, closed down in the wake of the deep-reaching structural change in the region, often satisfy the requirements for an auspicious logistics location, and present value-add potential for the local economy.

On the Lower Rhine, the districts of Wesel, Düren and Viersen stand out in this context. Given their convenient access to one of Europe's most important economic regions, even developments on speculation can be expected to have short marketing periods here. Other regions worth highlighting include Berlin's western, northern and eastern periphery, whose districts are often well-suited for logistics purposes. For the time being, however, the development activity concentrates mainly on the south of Berlin. But the rest of Berlin's periphery also offers suitable spill-over locations that can benefit from the proximity to the nation's capital as well.

// Within the overall sector mix defining the Deltaland region, logistics sites figure prominently, and the fact is certainly highlighted further by the region's convenient transport location between the northern German conurbations. In concrete terms, the logistics share of the requests for development lands reliably ranged somewhere between 40% and 50% in recent years.

Michael Krohn,
Wirtschaftsförderungsgesellschaft Deltaland

In addition to these hot spots, other districts in largely overlooked locations returned high scores as well. Positive scoring factors in these locations include higher unemployment rates in combination with a lower gross value added per capita. A wide belt of districts with interesting locations of this type stretches across central Germany. In the eastern states, the districts of Leipzig, Burgenlandkreis and Altenburger Land stand out. Located in direct proximity to the up-and-coming Saxon metropolis and the major freight airport Halle/Leipzig, these locations offer top conditions for setting up logistics units. Further west in central Germany, the districts surrounding the cities of Wolfsburg and Hanover are characterised by high potential. Located in the heartland of Germany and benefiting from great motorway connectivity, these logistics locations are particularly well suited for nationwide distribution.

The scoring shows that some locations that have so far been bypassed by logistics activities actually offer adequate location parameters. Although the scoring does not map the specific requirements for developing a given site, it identifies the districts that principally offer the right fundamentals.

Requirements in Modern Logistics Real Estate

Logistics real estate has established itself as one of the most significant asset classes, and has proven both essential and crisis-proof during the ongoing pandemic. This makes it safe to assume that the keen demand for this type of property is here to stay. Going forward, ever higher record completion volumes for logistics real estate signal that market players are entrusted with a serious responsibility for a sustainable future. The awareness and the sensitivity for the challenges of the future are already in place, and some of the measures seized so far have been outlined in this survey. >


Source: Bremer
Interior view of a distribution property in Hammersbach

// There are many indications that logistics will remain the main factor in the consumption of commercial space in the coming years. An important aspect in the future, apart from ecological sustainability and a minimization of the negative external effects may be the general resilience of the properties. Flexibility, sustainability, digitalization and the ability to deal with crisis situations, are, in our view, decisive future topics. For real estate and logistics infrastructures, which are primarily designed for industrial logistics, the situation is currently tense due to Corona. We can imagine, however, that in the medium to long term there could be an increased demand for logistics and production space (so-called light industries) as a result of bringing production back to Europe. In order to better secure supply chains in trade and industry and to make them more crisis-proof, there is also likely to be an increased demand for logistics space in the Hannover region.

Michael Krantz,
Wirtschaftsförderung Hanover Region

Logistics reals estate: With sustainability into the future

Sustainable logistics properties fulfil all aspects of the three-pillar model of sustainability. They are often not quite correctly referred as „green buildings". In contrast to the three-pillar model of sustainability, however, the term „Green Building" only considers partial aspects of the comprehensive concept of sustainability. Socio-cultural and economic dimensions are not addressed. From the perspective of ecological sustainability, sustainable buildings are characterised by resource efficiency in the areas of energy, water and materials, with the aim of reducing harmful effects on the environment. It is important that sustainability is applied to every phase of the building's life cycle.

Possible measures to increase sustainability are diverse. As regards to the added value of the measures, the increase of energy efficiency as the most effective of all groups of the panel surveyed for this year's study assessed. One starting point here, for example, is to optimise the energy efficiency of the building envelope. This can be combined with a reduction in noise emissions. With the increasing public attention for the issue of sustainability, this has also ecologically sustainable in logistics properties. In order to make the sustainability of a property assessable and thus also measurable, sustainability certificates are as a seal of quality. For new building projects the aspect of the importance of certification is growing.

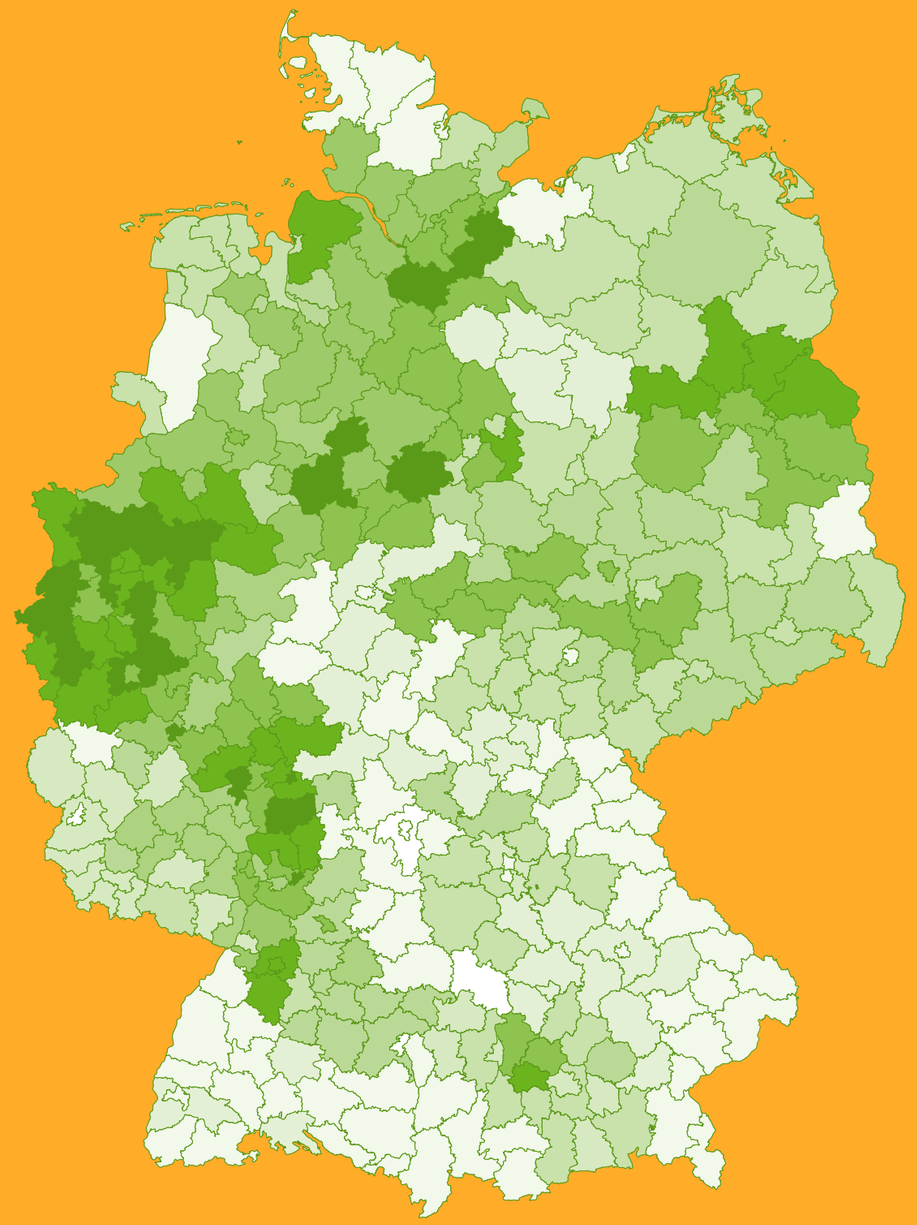
As already pointed out in the previous chapters: sustainability and related ecological aspects are increasingly occupying the industry. Around 30 percent of CO_2 emissions in Germany are attributable to the building sector. In many cases, however, it is more resource-efficient to invest in the refurbishment of older existing properties and continue to operate them instead of aiming for new construction or demolition/new construction.

Photovoltaic systems make a decisive contribution to achieving climate policy objectives at both the European and national level Union as well as the Federal Republic of Germany. They are one of the essential core elements for the stringent CO_2 reduction in the move towards climate protection and more and more players in the real estate sector take this into focus. Both project developers, users and investors are increasingly asking about photovoltaic systems in order to ensure its own sustainable electricity generation.

The logistics and light industrial market segment has continued to gain in popularity with investors in recent months. The Corona crisis has reduced the dependence on warehouse and logistics space, among other things for the distribution of goods in the sense of regional buffer stocks. The crisis has clearly shown: logistics is relevant to the system! However, the increased demand can no longer be met everywhere at once, even though the investment volume—compared to the previous year—increased significantly.

5.1.3

Indicative suitability of German administrative districts for a logistics settlement



high indication — low indication

Note: The individual factors were evaluated and ranked for each district in relation to the total of all districts. In the course of this, the influence of the specific location factors on the scoring was weighted and transferred into an overall ranking. The resulting location suitability can be seen as a loose combination of the positive factors (highway density, population density and availability of jobs) and the incentive indicator (low Gross value added per person).


Source: GARBE Industrial Real Estate GmbH

Aerial view of the Westfalenhütte logistics park in Dortmund

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