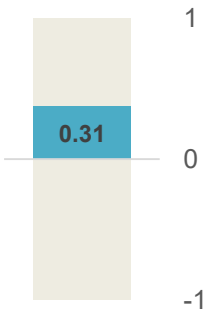
suva

2022 Sustainability Report
D4 Business Village Luzern

At a glance

ESI® factor



Social

Attractive mixed-use concept
Pollutant-free fabric
Barrier-free construction

Environmental

Energy consumption*)	4,200	MWh
Greenhouse gas emissions	< 1.1	kg CO_2/m^2_{ERA} a
Photovoltaic electricity production	261,175	kWh

CO_2 neutral operation

Refer to the corresponding chapters of this report for explanations on these points.

*) Heating, cooling, general electricity

Cover picture: D4 logo & colours of the 17 UN Sustainable Development Goals – Source: UN.org

Focus on Sustainability

The D4 Business Village Luzern in Root is a holistically planned centre for services, commerce, think tanks, co-working, living and leisure. It is conveniently located in the Rontal valley on the traffic link between Lucerne, Zug and Zurich.

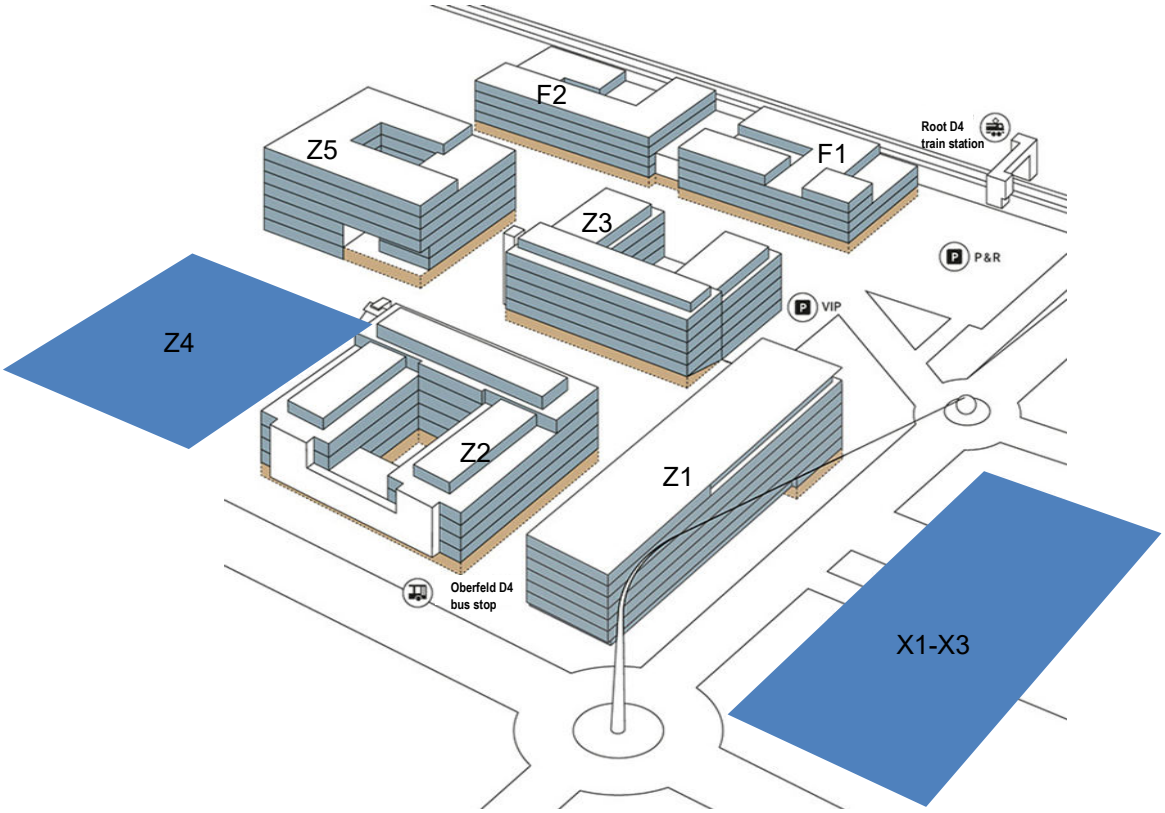
When opening its gates in 2003, the D4 Business Village Luzern comprised buildings Z2 and Z3. The complex was first expanded by building the wings (F1 and F2) in 2006. Next, building Z5 was added and, in 2020, building Z1 (offices and apartments) followed.

Preliminary discussions are underway with the Canton of Lucerne and the municipality of Root regarding an increase in the residential portion and the associated amendment of the development plan. When the permit is at hand, the future residential portion will concentrate in plots X1-X3.

In November 2021, Suva, the owner of the D4 Business Village Luzern, approved the climate strategy for capital investments through the Suva Council. This strategy is the basis of the strategic objectives for the direct property investments, which also include the D4 Business Village Luzern. They encompass social, economic and environmental aspects of sustainability and define corresponding goals (including specifications for the CO_2 reduction path), which are also binding for the D4 Business Village Luzern.

This sustainability report presents the current status of the D4 Business Village Luzern at the end of 2022.

D4 Business Village Luzern – site overview



Measuring sustainability

The sustainability of the D4 Business Village Luzern is measured using the three dimensions of sustainability: social, economic and environmental. This ensures a holistic approach to the sustainable development and management of the site.

The Economic Sustainability Indicator (ESI) is used to assess five areas that indicate the risks and strengths of the site.

All dimensions yield positive ESI values (>0). The sub-indicator rating for 'location & mobility' is average because the assessment does not take into account accessibility by private transport and because the train frequency at urban railway station Root D4 could be improved.

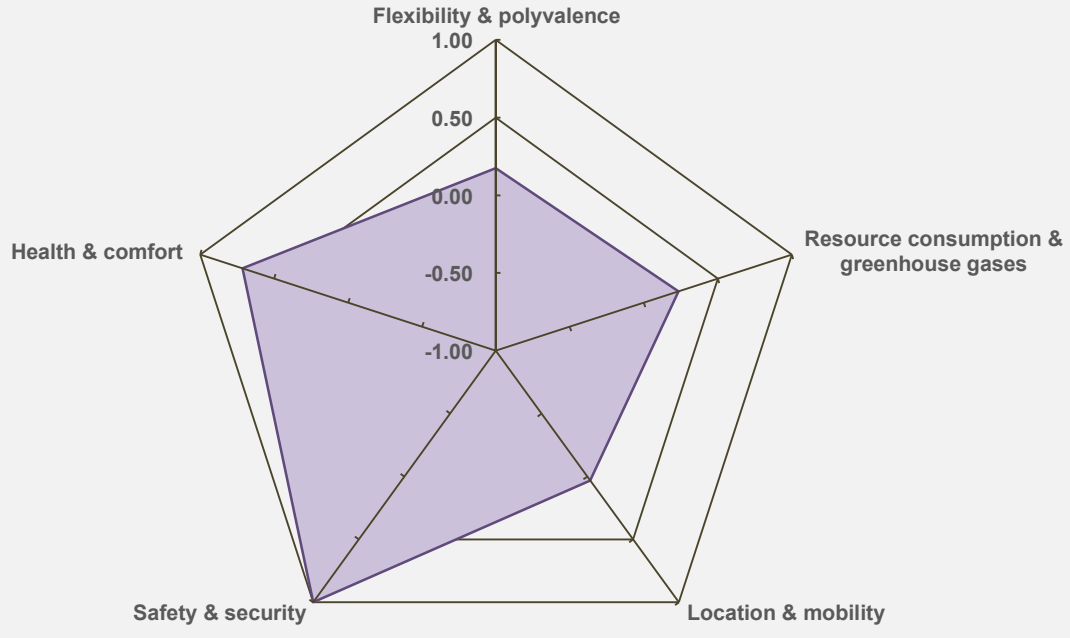
The ESI result of the D4 Business Village Luzern (0.31) is above the average of Suva's general portfolio whole (0.3).

The **ESI (Economic Sustainability Indicator)** was developed by the Center for Corporate Responsibility and Sustainability (CCRS) at the University of Zurich to measure sustainable construction. It comprises five sub-indicators, i.e.

- Flexibility & polyvalence
- Resource consumption & greenhouse gases
- Location & mobility
- Safety & security
- Health & comfort

and a total of 42 criteria. This allows for an objective assessment of the long-term risk or opportunity associated with a property in terms of it losing or gaining value due to long-term developments. A factor of '-1' indicates a property with many risks, while a factor of '+1' indicates a property with a positive long-term development trend.

ESI indicator for the D4 Business Village Luzern



1 Social

1.1 Local centre

Since opening in 2003, the D4 Business Village Luzern in Root has evolved into a vibrant hub. Its status as a local centre in the Future Valley Lucerne grew even further when the Root municipal administration moved here on 1 September 2022. Numerous companies from Switzerland and abroad have recognised this and rented premises in the D4. There are 67,600 m^2 available for flexible commercial, office, storage, production and hospitality use, plus a limited amount for retail. Thus, a wide range of sectors can be found under one roof.

Consequently, there are not only new jobs in the region, but also a diverse range of services and leisure facilities benefitting from the well-thought-out mixed-use concept. In addition to two restaurants, the Conference Center and coworking spaces, there is a day-care centre, a hair salon, a gym, a physiotherapy practice and a climbing hall. This combination generates footfall and ensures a good standard of living in the D4 Business Village Luzern.

The 48 apartments in Square One and in buildings Z2 and Z3 offer sought-after living space equipped to a modern standard.

1.2 For tenants

The D4 Business Village Luzern is designed as a service centre aimed at addressing and meeting client needs in the best possible way. Annual tenant surveys help to achieve this aim.

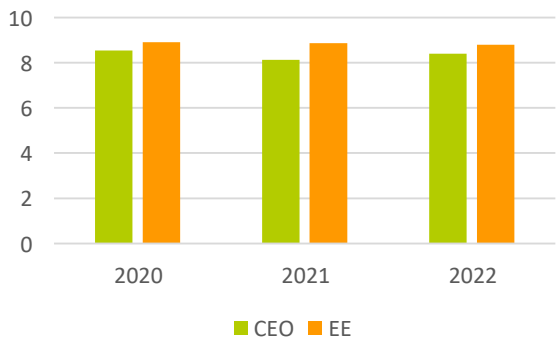
As a whole, the tenant survey results consistently fall within the range of 8 to 9.5 out of 10 points, reflecting a high level of satisfaction that remains fairly stable over the years.
However, a certain degree of dissatisfaction among the occupants became apparent during the Covid pandemic in 2020. This was particularly evident in the survey results for 2021, especially in the ratings for general services and the referral rate.

Survey results for 'general services'

among CEOs and employees of tenant companies

Survey results for 'referral'

among CEOs and employees of tenant companies

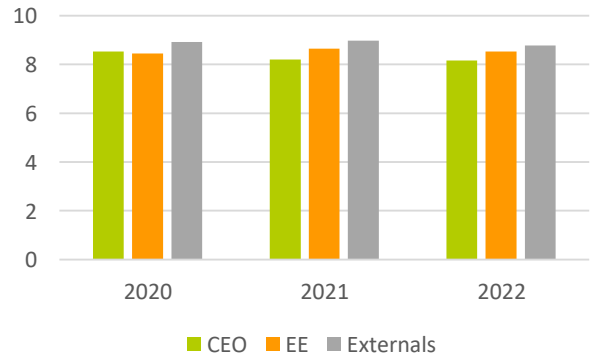


The D4 Conference Center is very popular with both external clients and tenant companies. For the CEOs of the tenant companies, the financial aspect exceeds expectations, while employees are more satisfied with the services. However, the managers of tenant companies are increasingly recognising the benefits of renting meeting rooms and co-working spaces on flexible terms.

In order to improve utilisation by external clients, plans are to further increase the awareness of the venue as a premises for conferences and co-working.

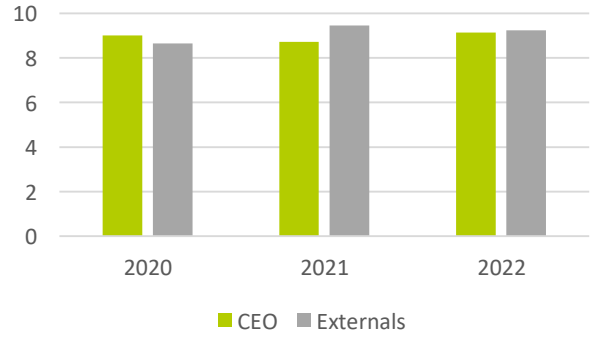
Survey results for 'D4 Conference Center'

among CEOs and employees of tenant companies as well as external clients



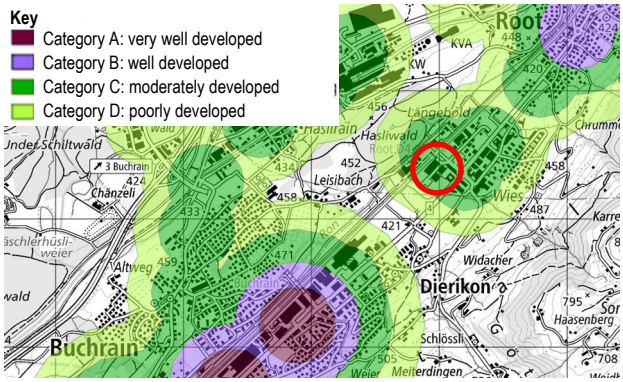
Survey results for 'co-working space'

among CEOs of tenant companies and external clients



1.3 Mobility

The location right on the railway line between Lucerne and Rotkreuz and in close proximity to the Buchrain motorway exit ensures excellent accessibility. Due to having its own urban railway station ('Root D4'), the area is classified as public transport quality category C.



Public transport quality category C according to https://map.geo.admin.ch/

In addition to good public transport links, the D4 Business Village Luzern is also easily accessible by private transport. The bicycle parking spaces are frequently used. The tenant survey indicates demand for a bicycle pump stands.

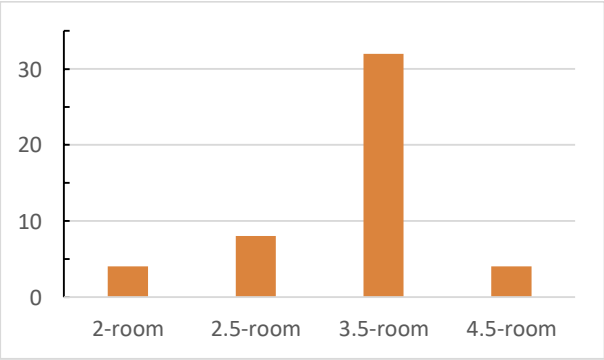
The ability to charge electric vehicles is becoming increasingly important to the tenants. There are currently 6 parking spaces in the underground car park, 6 in the outdoor park & ride area, and 2 visitor parking spaces with charging stations. The charging stations on the underground car park are powered by electricity from the on-site photovoltaic system.

One aim is to encourage as many drivers as possible to share the parking spaces by forming carpools. To help them do so easily, the D4 has launched the digital solution HitchHike (www.hitchhike.ch).

1.4 Household size trends

The 48 apartments are designed primarily for professionals, including those who work in the D4. In terms of size, the apartments are aimed at single persons, couples and small families. Most have 2 to 3.5 rooms (Z1) and a few have 4.5 rooms (Z2/Z3). The short distances within the D4, the excellent public transport links and the good accessibility by motorised transport make it easy for tenants to reconcile work, leisure and childcare.

Apartment sizes in the D4 Business Village Luzern



1.5 Health and well-being

The new apartments built in the Square One building in 2020 are equipped with controlled ventilation to avoid unwanted temperature fluctuations and to retain an excellent indoor air quality at all times. Controlled apartment ventilation enables energy-optimised operation.

For commercial tenants, some areas feature a chiller system with an installed cooling capacity of 1,500 kW for active room cooling.

1.6 Advancement of digitalisation

At the D4 Business Village Luzern, digital tools are used to make operations more efficient and to enhance the level of comfort and convenience for users.

Meters are installed in the property to record energy and water consumption and automatically transmit the data to the internal management platform. This enables operators to verify whether the system settings are correct or need to be optimised.

Selected areas of the property are equipped with digital locking cylinders to reduce the number of physical keys and to ensure a high level of security.

From 2023, it will be possible to pay for parking tickets online using a QR code printed on them. This will eliminate the need to go to the payment booth.

The multi-storey car park is currently testing the effectiveness of automatic number plate recognition at the entrance.

The D4 Business Village Luzern always strives to provide its services using modern, paperless methods wherever possible. Examples include the digital information guidance system on screens and the option to pay with TWINT.

2 Environmental

2.1 GEAK for energy efficiency

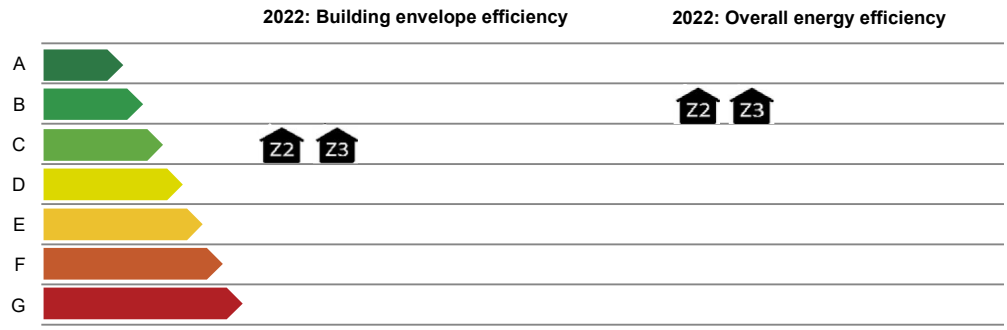
In 2022, a separate GEAK (cantonal energy certificate for buildings) was issued for D4 Business Village Luzern buildings Z2 and Z3. Assessments for the other buildings will be carried out in the coming months.

According to Suva's strategic guidelines, the refurbishment of existing buildings must achieve an overall energy efficiency rating of C, while new buildings must attain a category A rating for overall energy efficiency.

Buildings Z2 and Z3 were built in 2003 and classify as category B in terms of overall energy efficiency and therefore meet Suva's requirements for existing buildings.

GEAK: The standardised cantonal building energy certificate assesses the quality of the building envelope, the overall energy efficiency and (from 2023) the direct CO_2 emissions. GEAK Plus includes an advisory report with options for energy-efficient refurbishment. A provisional GEAK for new buildings can already be issued during the planning phase. The regular one is then issued after an assessment of the completed building.
A GEAK expert assesses the building and assigns categories A to G (very energy-efficient to less energy-efficient) for the energy label.

Number of buildings in each GEAK category (only Z2 & Z3 assessed so far)



Explanation of GEAK categories (source: GEAK association, own illustration)

Category	Building envelope efficiency	Total energy efficiency
A	Excellent thermal insulation (roof, facade, basement), windows with heat-insulating triple glazing (e.g. Minergie-P).	Highly efficient building technology for heating and hot water, efficient lighting and appliances, use of renewable energies and self-generated power (e.g. Minergie-A).
B	Buildings with a thermal envelope that meets the legal requirements.	Building envelope and building technology meet new-build standard, use of renewable energies (e.g. Minergie system renewal).
C	Old buildings with extensively refurbished building envelope (e.g. Minergie system renewal).	Extensively refurbished old buildings (thermal insulation and building technology), usually in combination with renewable energies.
D	Old buildings with good and extensive retrofit insulation but remaining thermal bridges.	Extensively refurbished old buildings with significant gaps or without the use of renewable energy.
E	Old buildings with improved thermal insulation, including new heat-insulating glazing.	Partially refurbished old buildings (e.g. new heating system), possibly new appliances or lighting.
F	Partially insulated buildings.	Buildings with some new components (building envelope, building technology, lighting, etc.).
G	Old buildings with no or poor retrofitted insulation and significant refurbishment potential.	Old buildings with outdated building technology and no use of renewable energies, but with significant improvement potential.

2.2 Suva reduction paths for energy consumption and greenhouse gases

In November 2021, the Suva Council approved Suva's new climate targets, which align with the goals of the Paris Agreement signed by the Federal Council. The focus is on reducing greenhouse gas emissions (GHG).

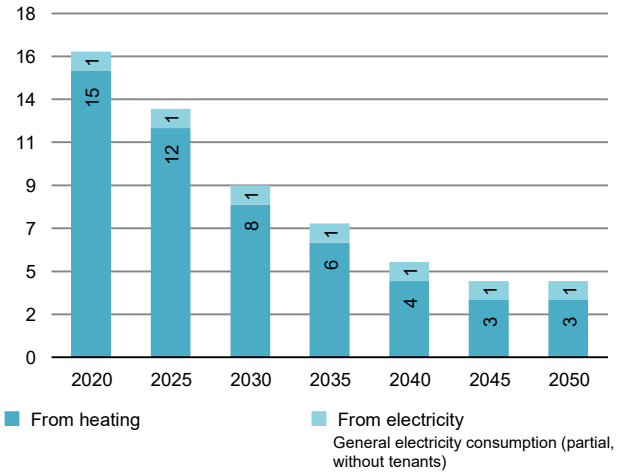
The strategy for direct property investments sets the sustainability goals for investment properties, which also includes the D4 Business Village Luzern. The reduction path defines reducing GHG emissions from operations to net zero by 2050 as its primary and measurable goal. The reduction path (updated in 2020) is based on the targets set out in the SIA Code of Practice 2040. GHG emissions are calculated using the emission factors of KBOB (coordination group for construction and property services).

The reduction path for GHG emissions reveals that these emissions are primarily caused by heat generation. Thanks to a large share of hydropower and nuclear power, the Swiss electricity mix is only a secondary driver of GHG.

For international reporting, the reduction path has also been presented according to the guidelines of the Carbon Risk Real Estate Monitor (CCREM) following EU conventions. The two representations differ in terms of reference areas and conversion factors. CCREM uses the floor area. In Switzerland, the energy reference area is more commonly used. In addition, energy consumption further divides into Scope 1 (for self-generated heat), Scope 2 (for purchased energy) and Scope 3 (for energy consumption by tenants). According to the CCREM recommendation, Scope 3 accounting is not needed, as the required data is often not available.

Emission reduction path for greenhouse gas emissions from operations according to SIA

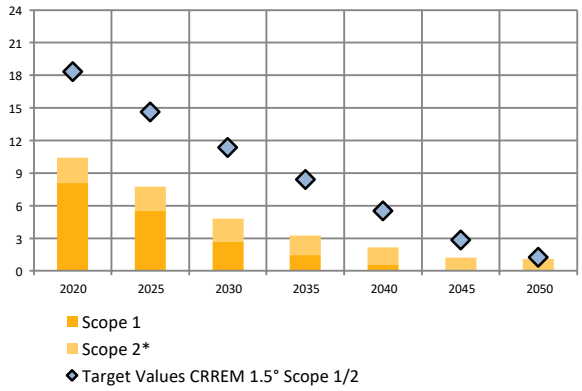
in kg $CO_{2,eq}/m^2_{ERA}$ and year (Suva property portfolio)



Emission reduction path for greenhouse gas emissions from operations according to CCREM

versus previous reduction path

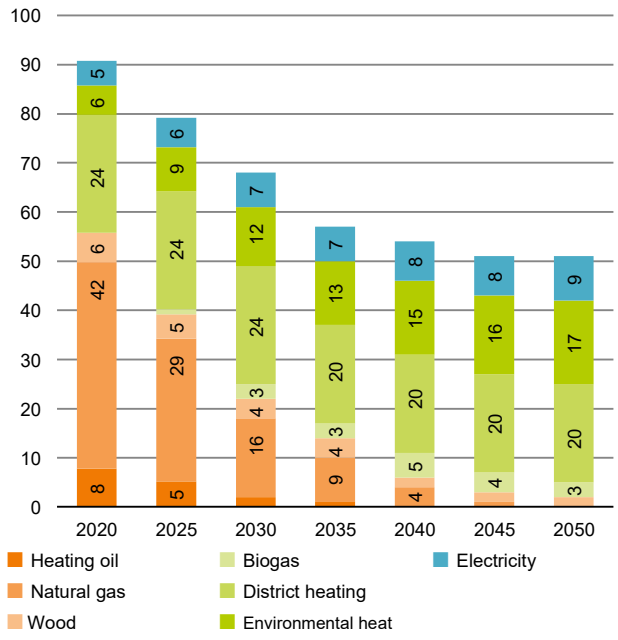
in kg/m^2 floor area and year (Suva property portfolio)



Most of the electricity is needed for heat generation. Suva is therefore planning to reduce the use of fossil fuels in its properties and replace it with renewable energy sources. At the same time, total energy consumption is to be reduced with well-insulated building envelopes and optimised building technology systems.

Emission reduction path for final energy in operations according to SIA

in kWh/m² and year (Suva property portfolio)

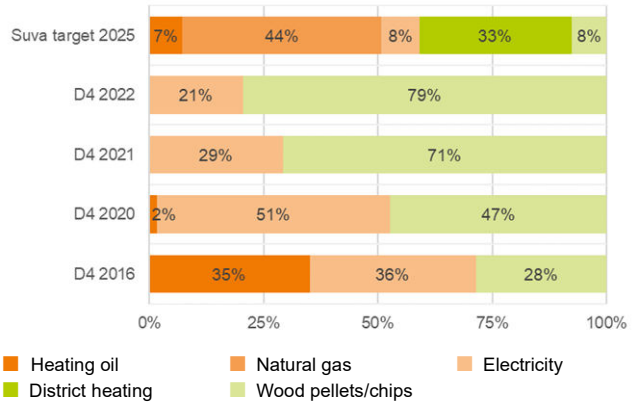


2.3 D4 energy consumption and composition of energy sources

The energy consumed by the D4 Business Village Luzern consists of the energy required for heating and cooling as well as the general site electricity consumption.
With 4,200 MWh, the energy consumed in 2022 is in line with previous years.

In accordance with Suva's requirement for the composition of energy sources, the goal is to no longer have any fossil fuels – and thus carbon-intensive energy sources – in the portfolio. At the D4 Business Village Luzern, heat has been generated in a fossil-free way since 2021, using geothermal probe heat pumps and a wood chip heating system. This makes the D4 a model property in Suva's investment portfolio.

Energy source Share in percent



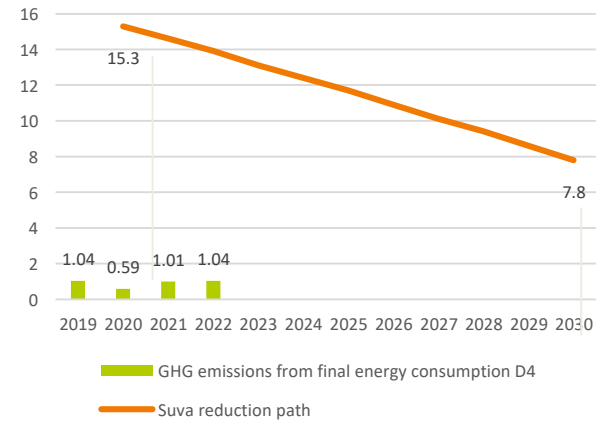
2.4 Greenhouse gas emissions

The final energy consumed is converted into greenhouse gas equivalents using the emission factors provided by KBOB.

Thanks to fossil-free heat generation and low electricity consumption, D4 Business Village Luzern operations are already almost fully carbon-neutral. Another advantage is that only hydroelectric power and self-generated electricity from the on-site photovoltaic system are used.

Specific consumption versus reduction path

in kg $CO_{2,eq}/m^2_{ERA}$ and year according to SIA

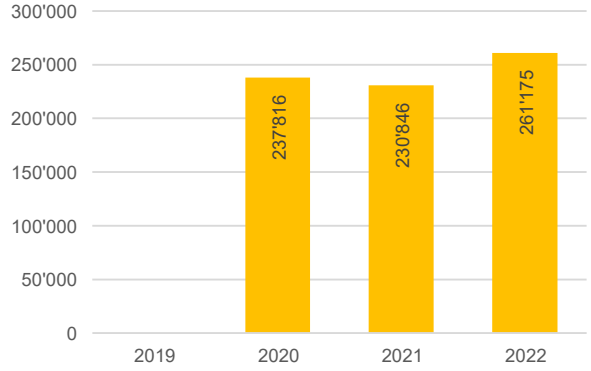


2.5 Expansion of photovoltaics (PV)

The large unshaded roof surfaces of the D4 Business Village Luzern are very well-suited for the installation of photovoltaic systems. In 2020, a system with a capacity of 250 kWp was installed on the roof of building Z1 to provide electricity for the D4 Business Village Luzern. Any surplus electricity that is produced is fed into the ckw grid.

Photovoltaic electricity generation

in kWh



To further harness the potential of on-site electricity generation, a 150 kWp photovoltaic system will be installed on building Z2 in 2023, and a PV system with a capacity of 90 kWp will be installed on building Z3 in the spring of 2024. This is expected to approximately double the current photovoltaic electricity output.

3 Economic

3.1 Market environment

The market for office space has become increasingly competitive in recent years, and demand was also affected by the COVID-19 pandemic.

The management team of the D4 Business Village Luzern responds flexibly to the changing requirements. For example, the growing demand for small offices is being met with new, flexible office layouts in Z5, which are expected to be ready for occupancy by mid-2024.

The diversified mix of sectors ensures that the D4 remains attractive to a wide range of potential clients. Awareness of D4 as a business campus will be consistently pursued by supplementing the existing infrastructure with services tailored to client needs.

3.2 Electricity prices

As the operator of the D4 Business Village Luzern, Suva ensures good long-term electricity prices by strategically buying hydroelectric power only. Tenants thereby benefit from low service charges due to very favourable terms for clean energy.

Outlook

New generation at the helm

On 1 July 2023, the D4 Business Village Luzern will celebrate its 20th anniversary. Caroline Hunziker will seize the opportunity to take over as Center Manager. She will be the first female Center Manager in D4's history, and also the youngest. Her main job will be to market the D4 brand as a complete package and attract further exciting tenants to the D4 Business Village Luzern.

Prioritised UN Sustainable Development Goals (source UN.org + Federal Government: Agenda 2030)

New strategy for direct property investments 2024-2028

Suva is committed to environmental, social and economic issues. The three dimensions of sustainability (social, economic and environmental), as well as the reduction of greenhouse gases to net zero by 2050, are strategically embedded at the corporate level.

By considering sustainability in its portfolio development activities, Suva actively preserves the long-term value of its properties and minimises risks.

Sustainability is a holistically pursued strategic objective that is also incorporated in the new strategy.

Suva has aligned its strategy with the UN Sustainable Development Goals (SDGs), as recommended by the government. The image on the left illustrates the prioritised sustainability goals for direct property investments as derived from the 17 UN Sustainable Development Goals.

In connection with energy efficiency, Suva requires a GEAK A rating for new buildings in both the 'Direct CO_2 emissions' and 'Total energy efficiency' categories. For comprehensive refurbishment, a minimum GEAK C or better rating should be aimed for.

A building label is also required. The specific label standard depends on the target group. If the quality standards are not covered by a label, suitable processes are put in place to ensure that Suva's sustainability criteria are met.

Legal Notice

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Reference
Suva Sustainability Report 2022 – Direct real estate investments

Recipients
D4 Business Village Luzern tenants
Employees of the Real Estate Department
Suva Sustainability Group

Created in December 2023 for the 2022 reporting year