DAIKIN

Daikin, your partner to boost your LEED® project

Team up with us to achieve your LEED® objectives, while staying within budget

Creating a sustainable future together

Air is something that surrounds us 24 hours a day. At Daikin, the future of the world's air is our greatest concern. We use our expertise about air, our feeling for innovation and our mastery of technology to improve the air we breathe. Aiming for sustainable growth, and a sustainable society through technological strength and outstanding human resources, guided by the United Nations Sustainable Development Goals (SDGs).

The Sustainable Development Goals, defined in 2015, are a set of 17 global development goals that aim to contribute to global sustainable development and to tackle broad topics such as poverty, health, education, energy, global warming and gender equality.

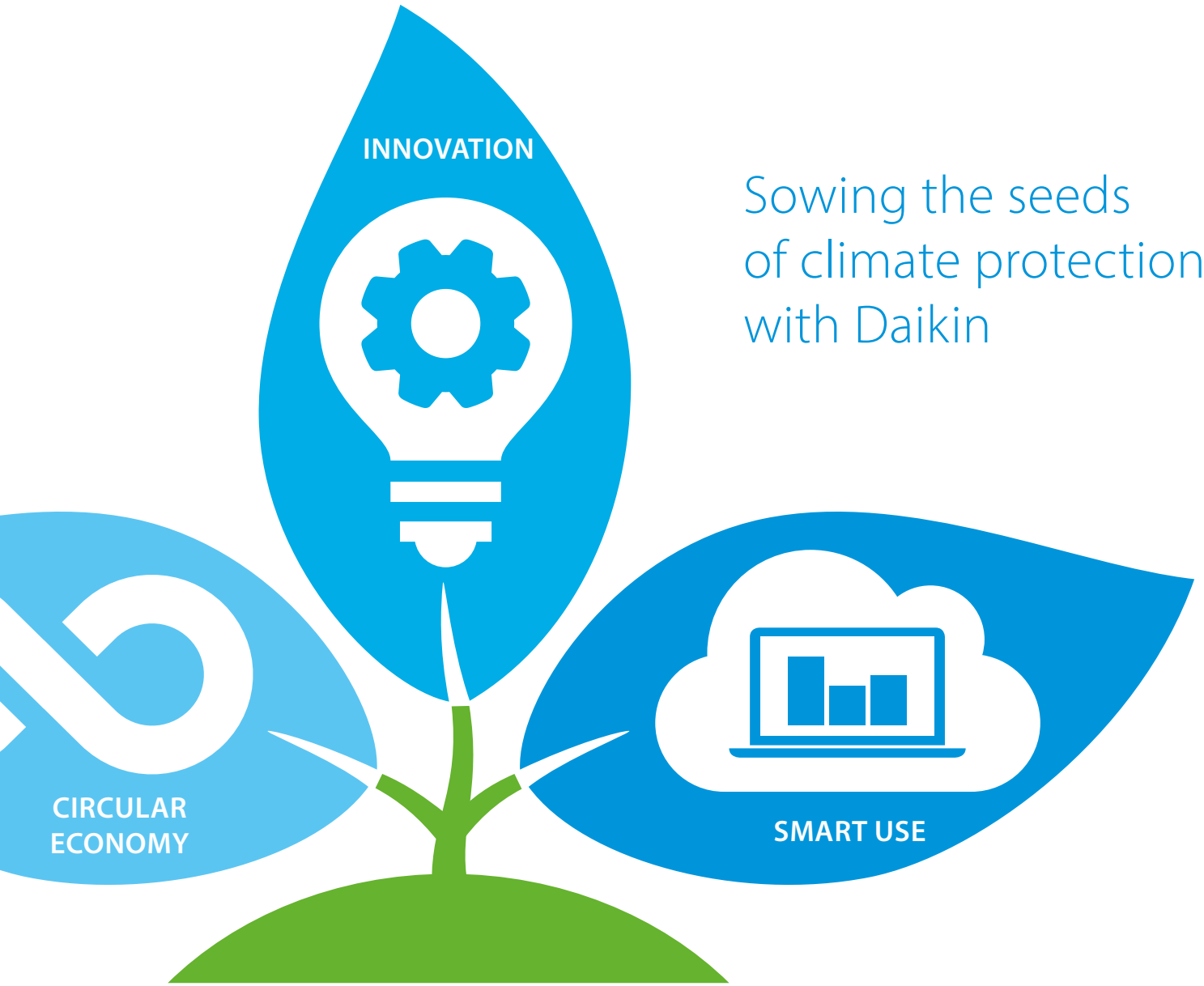
The target date set for the SDGs to be achieved is 2030. For more information on the Sustainable Development Goals, please visit: sdgs.un.org/goals

LEED
LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

If you're also commited to explore sustainable solutions that allow you to increase the market value and decrease the running costs of your building, LEED and this brochure is your ideal guidance. As a **LEED expert**, Daikin offers **advice** and the **solutions** to reach the **sustainable performance of your building** you want within the budget you foresee.

Determined to reduce our environmental footprint and the one of our customers, we aim to be CO_2-neutral by 2050. A circular economy, innovation and smart use – these are the stepping stones on our path.

For more information visit: daikin.eu/building-a-circular-economy



Sowing the seeds of climate protection with Daikin

Through a circular economy

- Re-use refrigerants through L∞P by Daikin
- Enable customers to create their own circular economy of refrigerants through the recover-reclaim-reuse program

Through innovation

- Introducing the lower GWP refrigerant R-32 and R-1234ze
- Offer high seasonal efficiencies
- Maximise efficiency 24/7 by deploying unique auto cleaning filters
- Adapted systems for well insulated or passive buildings

Through smart use

- Rigorously follow up on energy consumption via the Daikin Cloud Service
- Factor in expert advice to continuously optimise system efficiency
- Enable predictive maintenance to ensure optimum operation and uptime
- Prevent energy waste with smart key cards and sensors

What is LEED?

The **LEED** (Leadership in Energy and Environmental Design) Green Building Rating System is a **voluntary, evolving, consensus-based international standard for developing high-performance, sustainable buildings**, using a comprehensive, point-based system. The LEED certification programme is initiated by USGBC (US Green Building Council) and is internationally recognized. The certification confirms that a building is designed and built to achieve a performance that surpasses national standards for energy savings, water efficiency, CO_2 emissions reduction, indoor environmental quality, stewardship of resources and environmental impacts.

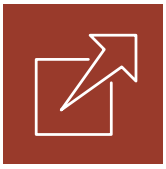
These topics are specified in **9 categories**, on which the building is evaluated. **LEED points are awarded per credit on a 110-point scale, resulting in four levels of performance**: Certified, Silver, Gold and Platinum. The final LEED building performance recognises the effort the investor or building owner have done and results in increased property, leasing or renting value.

Daikin contributes in 4 LEED categories:

Energy & Atmosphere

Indoor Environmental Quality

Materials & Resources



Innovation & Regional Priority

Sustainable Cities

Location & Transportation

Water Efficiency

Integrative Process

Why LEED?

LEED offers many advantages for project developers, building tenants and building owners:

Highly improved quality of life for the building user

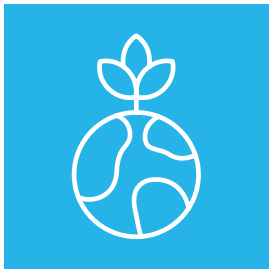
- Improved comfort
- Easier to attract talent
- Higher work efficiency
- Lower sick rates

High building value for the developer and owner

- Higher selling and rental prices (up to 20%!)
- Fast sale or rent out
- Higher project ROI

Lower operational, maintenance and refurbishment costs

- Lower running costs thanks to highly efficient building technologies
- Lower renovation costs thanks to building flexibility and longer compliancy with legislation



Lower environmental impact of the building

- Lower CO2 footprint of the building
- Cleaner technologies for better health and pollution reduction
- Better waste management
- Efficient use of land and resources

Daikin, your partner for your green project

Choosing the sustainable path is no longer a matter of choice, it's an obligation. As every building is unique, it requires a different solution to match its unique properties. It is essential to have an **HVAC-R partner** like Daikin, with knowledge and portfolio **to achieve your LEED objectives while staying within budget**.

Our HVAC-R total solutions increase the environmental value of buildings and enhance the working environment of tenants. Integration of Daikin technologies will therefore contribute to the overall sustainability level of the building and enable you to **to reach a LEED Gold or Platinum score**.

Daikin heat pumps can contribute in

4 out of 8 LEED categories

and can help achieve

18~35 LEED points*

* Feasibility analysis done by Daikin

Scan the code to download

Save time by using our in-depth LEED assessment sheet, created by our team of experts, as base of evidence towards assessors when applying for a LEED certification.

Why Daikin?

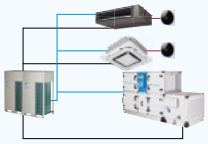
to maximize your LEED rating

1. A global leader with local manufacturing service infrastructure and resources to provide **oustanding aftercare support**, advanced commissioning and hand-over.
2. Daikin remote monitoring services ensure a **pro-active aftercare,** by detecting excessive energy use or potential issues before they occur to maximise system lifetime and minimize operational costs.
3. **First class Indoor Air Quality** thanks to low VOC emission, optimal thermal zoning fresh air supply, monitoring and a low acoustic performance.
4. **Responsible sourcing and waste reduction**: BES6001 and ISO14001 certification delivers extra credits for the project.
5. Low carbon heating, cooling, ventilation and refrigeration thanks to **market-leading seasonal efficiency**.
6. Reduced environmental impact thanks to **refrigerant leak detection** systems and reuse of existing refrigerant through the **L∞P by Daikin** program.
7. High quality and performant products result in a **positive life cycle analysis**.
8. Our system are designed to be **easily adaptable** and upgradable to meet future building demands

Find out in which categories Daikin gains points in the LEED v4.1/v4.0 for New Construction and Major Renovations on the next pages.

VRV

Credits related to
VRV solutions

Category	Page	Section	Objective	Maximum points that can be obtained	
				VRV	
Energy & Atmosphere (EA)	page 10	EA Prerequisite: Fundamental commissioning and verification	To support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.	✓	
		EA Credit: Enhanced commisioning	To further support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.	4	
		EA Prerequisite: Minimum energy performance	To reduce the environmental and economic harms of excessive energy use by achieving a minimum level of energy efficiency for the building and its systems.	✓	
		EA Credit: Optimize energy performance	To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.	1 up to 18	
		EA Prerequisite: Building-level energy metering	To support energy management and identify opportunities for additional energy savings by tracking building-level energy use.	✓	
		EA Credit: Advanced energy metering	To support energy management and identify opportunities for additional energy savings by tracking building-level and system-level energy use.	1	
		EA Prerequisite: Fundamental refrigerant management	To reduce stratospheric ozone depletion.	✓	
		EA Credit: Enhanced refrigerant management	To reduce ozone depletion and support early compliance with the Montreal Protocol while minimizing direct contributions to climate change.	1	
Indoor Environmental Quality (EQ)	page 16	EQ Prerequisite: Minimum indoor air quality performance	To contribute to the comfort and well-being of building occupants by establishing minimum standards for indoor air quality (IAQ).	✓	
		EQ Credit: Enhanced indoor air quality strategies	To promote occupants' comfort, well-being, and productivity by improving indoor air quality.	2	
		EQ Credit: Construction indoor air quality management plan	To promote the well-being of construction workers and building occupants by minimizing indoor air quality problems associated with construction and renovation.	1	
		EQ Credit: Indoor air quality assessment	To establish better quality indoor air in the building after construction and during occupancy.	1	
		EQ Credit: Thermal comfort	To promote occupants' productivity, comfort, and well-being by providing quality thermal comfort.	1	
		EQ Credit: Acoustic performance	To provide workspaces and classrooms that promote occupants' well-being, productivity, and communications through effective acoustic design.	1	
Materials & Resources	page 20	MR Credit: Environmental Product Declarations	To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts.	1	
Innovation & Regional Priority (RP)	page 21	RP Credit: Regional Priority	To provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities.	1 up to 4	
				Up to 35 points	

Credits related to: Applied systems
(Chillers, Air handling units, Fan coil units) ..... page 26

Detailed points information

Energy & Atmosphere (EA)

EA Prerequisite: Fundamental Commissioning and Verification

AIM

Provide specific information for achieving the Owner's Project Requirements (OPR) related to heating, air conditioning, ventilation and refrigerating systems in buildings, in accordance with ASHRAE Guideline 0-2005 and ASHRAE Guideline 1.1–2007 for HVAC&R Systems.

For HVAC-R systems the emphasis is on:

› HVAC-R systems to fully support The Commissioning Process activities of Guideline 0-2005
› Verification during each phase of The Commissioning Process
› Acceptance during each phase
› Documentation during each phase
› Systems Manual specific requirements
› Training for operations and maintenance personnel and occupants

PREREQUISITE

We comply to this request by providing installation manuals and a schedule of commissioning for the HVAC-R work, including an overview for commissioning and recommissioning.

EA Credit: Enhanced Commissioning

6 points can be scored

AIM

To further support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.

1 Option 1: Enhanced systems commissioning (4 points)

Path 1 (3 points): Complete the enhanced commissioning process according to ASHRAE Guideline 0–2005 and ASHRAE Guideline 1.1–2007

Path 2 (1 point): Develop monitoring-based procedures and identify points to be measured and evaluated to assess performance of energy-consuming systems

2 Option 2: Envelope commissioning (2 points)

VRV IV / VRV 5 heat pumps:

+4 POINTS

We comply with Path 1 & 2 via our local service support teams that can assist in advanced commissioning and hand-over and who can provide an extensive set of documentation to make a user guide and training schedule for HVAC-R.

We provide seasonal testing of the building by testing the system in full load conditions (heating in mid-winter or cooling in summer and part-load conditions (spring and autumn).

We facilitate the building operations review, by continuous monitoring of the system and providing automatic evaluation of the energy use via our intelligent Touch Manager or VRV Cloud Service.

Curious to find out more?

Discover how Daikin's HVAC solutions significantly impact LEED®'s other categories such as:

Indoor Environmental Quality

› how to contribute to the overall comfort and well-being of building occupants by establishing minimum standards for indoor air quality (IAQ) during construction, renovation and occupancy;
› how to reduce stratospheric ozone depletion;
› how to comply with the Montreal Protocol while minimising direct contributions to climate change;

Materials and Resources

› how to reward project teams for selecting products verified to have been extracted or sourced in a responsible manner;

Innovation and Regional Priority

› how to provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities.

Download our entire guide to find out more,
discover your options and team up with us to achieve your green objectives, while staying within budget.

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