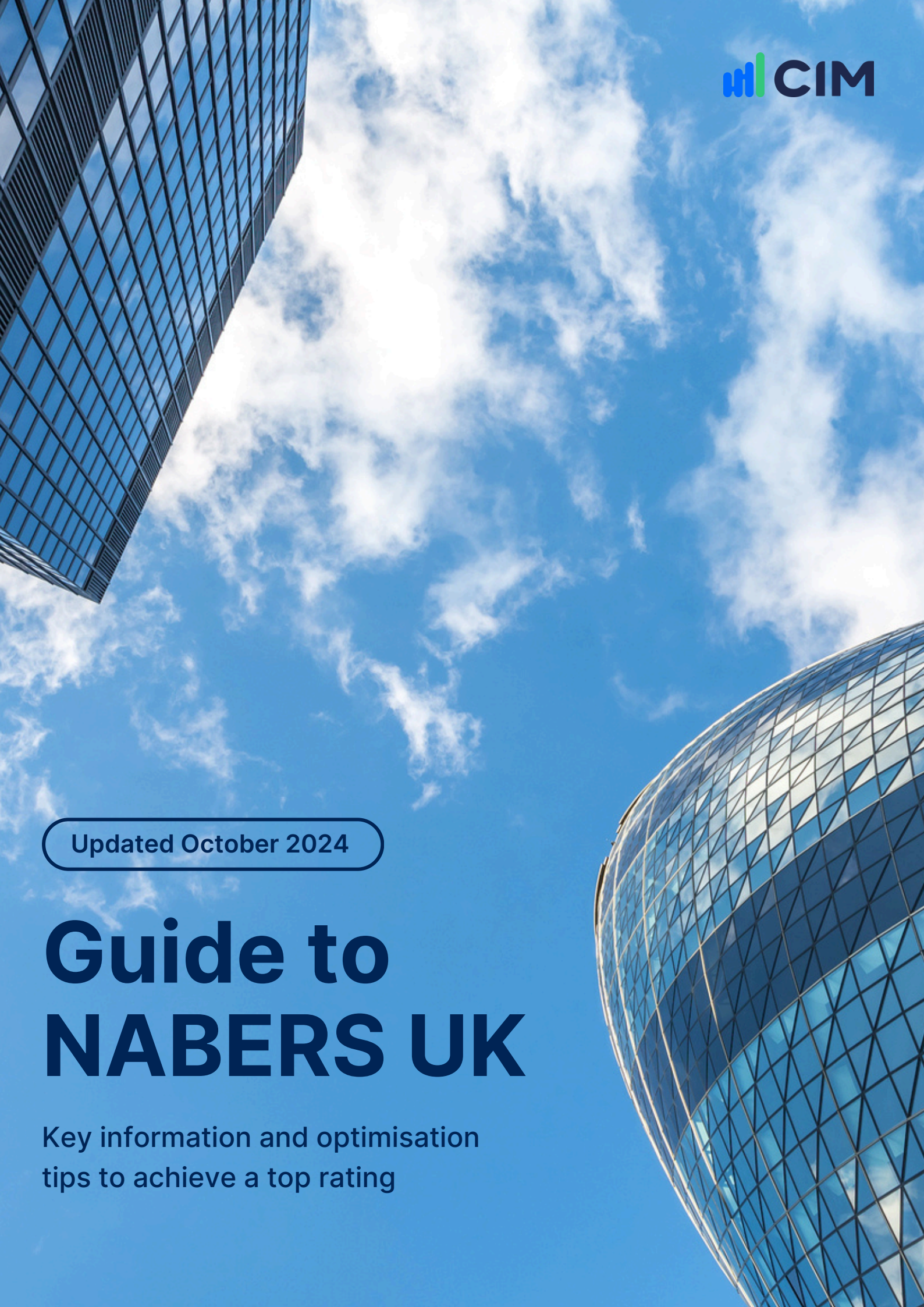

Updated October 2024

Guide to NABERS UK

Key information and optimisation tips to achieve a top rating

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Introduction

As a relatively new rating system in the United Kingdom, NABERS is still getting established in the region. Luckily, NABERS has been around for many years in Australia, where CIM has become very familiar with how it works and, importantly, what practical measures can help prepare buildings for a favourable rating. This guide will take you through the basics of the NABERS rating system before offering optimisation strategies that ensure buildings operate as efficiently as possible.

What is CIM's experience with NABERS?
Headquartered in Sydney, where NABERS was founded, CIM is a global leading provider of building analytics software that helps run large buildings at their peak performance, generating operational efficiencies across portfolios. By detecting and diagnosing issues with plant and equipment, our PEAK Platform facilitates significant reductions in energy consumption - which directly correlate with higher NABERS ratings.

Our software, complemented by an expert team of engineers, has helped hundreds of property partners in Australia and New Zealand protect or increase their NABERS ratings. We were recently featured in a NABERS case study on our Australian client Charter Hall. Since our platform was deployed across Charter Hall's portfolio of 60+ offices, a 19% drop in energy consumption has been recorded. At the same time, nearly half of the properties have increased their NABERS Energy ratings.

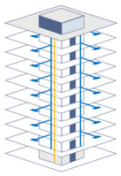
What is NABERS UK?

NABERS UK is a simple, reliable method for evaluating the energy efficiency of office establishments throughout England, Wales, Scotland, and Northern Ireland. NABERS assists in *"precisely gauging, comprehending, and articulating the ecological footprint of your establishment while pinpointing areas for financial savings and potential enhancements."* NABERS UK is a reworking of the highly effective rating scheme founded in Australia and New Zealand. Initiated in 1999, NABERS is globally recognised as a pioneering environmental performance assessment instrument for commercial properties.

There are two product offerings available in the UK for office buildings: NABERS UK **Design for Performance** to drive energy-efficient new buildings and NABERS UK **Energy for Offices** ratings to measure how energy-efficient existing buildings are, as an operational rating that uses actual energy data rather than theoretical. The focus of this guide will be on Energy for Offices, which owners can prepare their buildings for by way of optimisation strategies that drive operational efficiency.

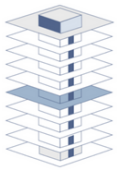
NABERS ratings assess a building's environmental impact using a simple star rating system, from 1 ('Making a Start') to 6 (Market Leading). The effort to attain a higher rating increases along with your star count. A 6-star rated building has 50% of the greenhouse emissions of a 5 star building, pointing toward a target zero-emissions 7 star rating in the future.

UK offices can be rated in three ways: Base Building, Tenancy and Whole Building ratings. The energy rating functions by contrasting the energy usage of a structure against a collection of benchmarks. These benchmarks are formulated using real performance figures from UK offices to set the median, considering both location and occupancy.



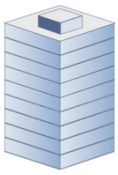
Base building

Buildings can be rated based on their central services like heating and cooling systems, lifts and lobby lighting.



Tenancy

Enables energy used by the tenant to be rated, typically for lighting and power, plus special tenancy requirements or local a/c.



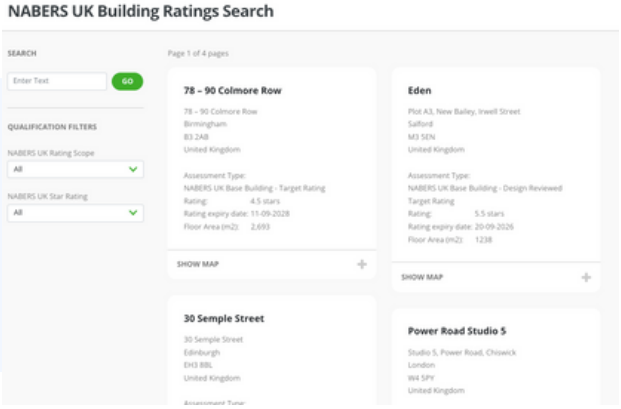
Whole building

Provides assessment of energy used by office tenancies and by Base Building services to lettable and common spaces.

NABERS UK rates the energy performance of offices only. However, in Australia, NABERS ratings are used to compare and monitor the performance of apartment buildings, data centres, shopping centres, public hospitals, and hotels. Australian classifications of ratings also go beyond energy, covering water, waste, indoor environmental quality, and carbon neutrality.

All current ratings can be found on CIBSE Certification's Online Register

Online Register



Expert quotes on NABERS UK

Here we've captured some of the insightful advice from CIM's recent webinar panel on Reducing Operational Carbon with NABERS UK. Watch the recording here.

"In the UK, we've been great at design-stage compliance but not so good at ensuring buildings perform as designed. NABERS addresses this performance gap by focusing on actual in-use energy consumption rather than theoretical models."
- Claire Das Bhaumik, Partner at Inkling LLP

"You're only as good as your last 12 months. NABERS is not something you can set and forget – it requires consistent monitoring and data collection to maintain high-performance ratings year after year."
- Scott Beauman, Head of Customer Success at CIM

"Communication is key—whether with tenants, facilities managers, or building owners. The ongoing dialogue around energy consumption and performance is essential for achieving and maintaining NABERS ratings."
- Karl Welsch, Technical Officer at NABERS

"It's about understanding the specific needs of each building. You can't take a one-size-fits-all approach; success in improving energy efficiency depends on tailoring strategies to the individual context."
- Jo Hawkings, Asset Management Director at Pembroke

Governance

NABERS UK is administered by CIBSE Certification, who is responsible for the day to day operations of the scheme, taking over from BRE Group in April 2024. The strategic operations of NABERS UK are overseen by a steering committee comprising CIBSE, the Better Buildings Partnership and NABERS, as scheme owner on behalf of Australia's New South Wales Government. The Better Buildings Partnership has been an integral partner in the development of NABERS UK and acts as a scheme ambassador to support its uptake and success.

These three members have voting rights within the Committee. The NABERS UK Steering Committee is also made up of non-voting stakeholder members from bodies representing a wide range of NABERS UK stakeholders. They influence key decisions within the committee and will be responsible for providing feedback and advice to CIBSE to ensure NABERS UK delivers against the needs of the commercial real estate industry.

The eight current stakeholder members include representatives from the British Council for Offices (BCO), British Property Federation (BPF), BSRIA, IWFM, RIBA, RICS and the UKGBC.

Eligibility

A building is considered eligible for a NABERS rating if all of the eligibility criteria detailed below are met:

- **Building type:** during the rating period, the building or part of the building was used as an office, or, if unoccupied, capable of being used as an office.
- **Building consumption data:** less than 80% of the building's total office Net Internal Area (NIA) has been excluded due to lack of consumption data.
- **Building energy coverage:** the minimum energy coverage is met.
- **New buildings and major refurbishments:** new buildings or buildings undertaking major refurbishments are eligible for a NABERS rating as soon as 12 months of a rating period can be completed. In these cases, the rating period can start as soon as one of the following conditions is met (whichever occurs first):
  - 75% of the office NIA is occupied by tenants; or
  - It has been two years since the certificate of completion was issued.

Why does a NABERS rating matter?

In Australia, where the program is far more established, we have seen a raft of high-value benefits that we expect will be replicated in the UK over time.
A NABERS rating forms the basis of a robust sustainability strategy, providing a fair benchmark for a building's operational efficiency. NABERS provides a trustworthy and independent validation of sustainability data, ensuring confidence in communicating it simply.

Buildings with a lower environmental impact, lower running costs, and being able to communicate that with confidence gives building owners a competitive advantage with prospective buyers, tenants and investors.

A higher NABERS rating delivers significant benefits:

- Competitive advantage
- Increased asset value
- Higher occupancy
- Lower operating costs
- Industry recognition
- Regulatory compliance
- Environmental impact
- Accountable contractors
- Green finance

Competitive advantage

As NABERS adoption picks up in the UK, getting in early will be of huge competitive advantage. Having a building that has a lower environmental impact, lower running costs and being able to communicate that simply and with confidence gives building owners the competitive advantage with prospective investors and occupiers.

Rental and valuation premium

High NABERS ratings can drive rental premiums, with CBRE's NABERhood Watch Report finding that 5.5 and 6.0 Star-rated CBD office buildings achieve rents 1%-5% higher. Buildings with strong NABERS ratings have lower operating costs, making them more attractive to tenants and buyers. Conversely, buildings with low ratings face lower valuations, as buyers anticipate higher operating expenses and future capex for upgrades. A clear link exists between cap rates and NABERS ratings, with 6-star buildings commanding a 5% premium and 4.5-star buildings facing a 2% discount.

Higher occupancy

In Australia, all tenants consider NABERS within their evaluation criteria, while the federal government even mandates minimum ratings for their commercial tenancies. Research has clearly illustrated higher occupancy for NABERS 5.5 and 6 star rated buildings, with a 4% gap to 4.5 star rated and an 11% gap to 4 star and less rated assets. We recently conducted our own research, surveying 200 UK directors and senior decision-makers who occupy large commercial tenancies exceeding 50,000 sqft. 68% of respondents had moved or were considering moving their business due to a poorly performing building that contradicts company ESG policy, while 49% said a new building's environmental performance would very much influence their choice of office space. **Read the full research whitepaper here.**

Lower operating costs

Improving a building's NABERS rating requires energy reductions. Minimising wasted energy consumption and eliminating inefficiencies not only boosts the building's performance but also lowers operating costs. Energy expenses typically account for 10-15% of overall building operation costs, and for premium and Grade A offices, improving energy efficiency can reduce these costs by 0.9 to 1.7% as a percentage of rent, based on estimates by CBRE.

Industry recognition

The industry recognition that comes with peak building performance helps your building stand out from the crowd, attracting the attention of buyers, investors, and tenants.

Regulatory compliance

As ESG continues to gain worldwide traction, more governments and organisations will mandate that the buildings they occupy have high environmental ratings. Locking in high operational standards now will put you ahead in the long run. In fact, 20% of UK offices risk becoming unlettable due to upcoming Minimum Energy Efficiency Standard legislation.

Environmental impact

Buildings have a significant impact on the environment, being responsible for nearly 40% of the global carbon emissions. By enhancing operational efficiency within the NABERS framework, buildings are reducing their carbon footprint. NABERS customers have reduced their energy use by an average of 30-40% over a 10-year period.

Green finance

NABERS UK boosts green finance opportunities by providing a reliable measure of building energy performance. Strong NABERS ratings can attract green leases, where tenants commit to sustainability, and enable sustainability-linked loans with favourable terms tied to improved energy efficiency. This transparency supports better financing and aligns properties with net zero goals.

The path to energy efficiency

To improve energy efficiency within the NABERS framework, it's essential to focus on three key strategies: monitoring (and the data and digitisation that underpins it), operational improvements, and capex. Effective monitoring and digitisation provide real-time data insights, helping to identify inefficiencies and track progress. Operational improvements focus on optimising existing systems and processes, often delivering immediate gains without substantial upfront costs. For long-term benefits, strategic capex investments can upgrade equipment and infrastructure, driving further efficiency. By combining these approaches, you can enhance your building's energy performance and improve its NABERS rating.

1. Monitoring, Data & Digitisation

The digitisation and subsequent monitoring of your commercial property portfolio should be the foundational element of your Net Zero roadmap. The operational data provides a benchmark to measure all subsequent initiatives, and will help you identify the biggest opportunity areas to improve your sustainability performance.

It should not be executed in isolation, but rather should remain 'always-on' throughout the journey. Data-based monitoring of plant, equipment and systems (such as HVAC) and where this comes from (smart building technologies such as analytics, networked sensors, BMS, IWMS or IoT) needs to be set up at the beginning, and remain an active, continuous process, while the rest of your strategy is rolled out.

Why is it so foundational?

- Without data, organisations are simply shooting in the dark when it comes to enhancing buildings' operational performance and energy efficiency.
- Monitoring allows you to identify and focus on the sub-optimally performing assets first. In other words, it helps you improve the performance of a lowly rated asset, while at the same time ensuring that a highly rated asset is maintained.

- From a cost perspective, strategies around monitoring and optimisation are the most 'controllable' expenses among the five strategies, while costs will increase progressively as you approach investment in upgrades, renewables and offsets. Further, we can expect these expenses to keep rising until 2030 and beyond.
- From an efficiency perspective, even the best quality, latest, most expensive equipment in commercial buildings can operate at suboptimal levels without constant monitoring and performance analysis.

Energy drift and what causes it

In general, when it comes to consuming energy efficiently, buildings do not perform as well as they did when they were first built, and the gradual loss of this efficiency is known as energy drift. Energy drift happens for various reasons, including mechanical wear and tear, malfunctioning equipment, alterations to BMS controls, changing site conditions, building design defects, or human error. Gridpoint reports that buildings can lose as much as 10-30% in energy efficiency and costs, every one to two years, only to 'drifts'.

The performance of even the most perfectly commissioned and tuned systems deteriorates over time. According to the Building Owners and Managers Association (BOMA), this can translate into billions of pounds wasted, as electricity and maintenance costs account for approximately £3.5 of £8 spent per square foot (around 0.1 sqm) in annual operating costs in building areas. Furthermore, drift can raise capital expenses, disrupt the comfort of your occupants, and lead to safety risks arising from equipment issues left unchecked.

To identify and prevent drift, property owners and managers need equipment-level data, both historical and real-time, to assess and resolve specific issues accurately and promptly. When it comes to drift, monitoring is essential to prevent the hidden dangers of moving backwards (i.e. entropy). As a property manager, you will struggle to move forward with your Net Zero ambitions unless you stop yourself from moving backwards through drift. Setting baselines is particularly important in a post-covid environment where plant and equipment may have not been optimised for the correct loads.

24/7 monitoring of equipment allows you to identify and rectify failures immediately, preventing massive triggers of drift, such as overnight operation of equipment, BMS overrides, schedule overrides, fire alarm failures, or construction or fit-out activity.

The case for digitisation

A completely digitised commercial property sector seems ambitious. But more and more stakeholders including owners, developers, and operators are seeking greater visibility into their portfolios and are adopting technology that consolidates useful data and gives them unparalleled insight.

The typical Asset Manager uses, on average, 5 to 15 business software applications daily; digitisation gives you aggregated data across your assets in a way that is accessible, consistent, integrated and clear. Of course, the preference is to consolidate tools as much as possible as a means to streamline and save time.

There are a number of advantages of a digitised portfolio. Here are some of the most compelling.

- Allows for the continuous monitoring of all plant and equipment so that failures, major anomalies or tuning opportunities can be immediately identified.
- Reduces the onus on technical knowledge within the property team as all the requisite data, insights and steps for resolution are readily accessible.
- Supercharges collaboration between property operation teams, as workflow modules enable effortless assignment of actions to the right team member, enabling speedier resolution of issues.
- Offers visibility across entire portfolios, as data is consolidated into a singular consistent source of truth, enabling outliers and multi-asset trends to be easily spotted.

Start taking stock of your data

In order to lay out a fully-fledged digitisation plan founded in monitoring, the first step is to understand what data you currently have available and how best to aggregate it. Consider answering the following questions as a starting point:

- Do you currently have access to all of the data sources you feel you need?
- Do you have a way to tap into missing data?
- Is your data available to you in real-time?
- Do you have the ability to vary the level of granularity?
- Is your data in such a format that it is accessible to even non-technical team members?

If you answered no to any of the above, we recommend considering a building analytics provider to facilitate the benefits of a digitised portfolio.

2. Operational improvements

Unlike more costly capex strategies, improving the performance of equipment via control systems (i.e. optimisation or tuning) can provide immediate reductions in energy use. The ROI can often be measured in months, not years. Most improvements that impact NABERS have to do with HVAC systems, which consume most of a building's energy. In fact, optimising HVAC systems alone can yield a 10-15% energy reduction.

Ultimately, the results you'll get from using your current equipment more intelligently are much better than simply throwing money at the problem.

So, where do you start?
We recommend running BMS control strategy reviews to identify and resolve operational inefficiencies. The following 7 strategies are recommended year-round. These optimisation initiatives have the potential to yield distinct efficiency gains when supported by robust building analytics data available through platforms like PEAK. Their execution is expanded upon in the following pages.

1. Outside air temperature lockouts
2. Cooling tower temperature control
3. Chiller cooling & boiler heating calls
4. Zone temperature setpoints
5. Free cooling/economiser mode operation
6. Night purge operation
7. CHW and HW temperature setpoint reset functionality

3. Capital expenditure

Capital expenditures that directly impact NABERS ratings generally involve replacing or upgrading building equipment and systems. Common examples include:

- Equipment replacement (especially HVAC)
- Lighting upgrades
- New BMS installation
- Investing in renewables

In some cases, capital expenditures can be quick wins. For instance, if you are confident that your chiller has reached the end of its lifecycle, replacing it with a newer and more efficient model may be an easy and cost-effective improvement.

However, while new and improved equipment can help reduce overall energy consumption, there are significant drawbacks. First, the cost can be prohibitive. Second, unless the performance of new equipment is optimised, it will still fault and degrade in much the same way as the old equipment.

This means that efficiency gains from capital expenditures are spread out over a long period, due to significant upfront investment. If you're considering replacing equipment that still has years of life left, you won't see ROI on those purchases until many years later. Our recommendation is to only invest in capital upgrades when you are confident they will offer quantifiable improvements in efficiency and all operational improvements have been executed.

Optimisation strategies

1 Outside air temperature lockouts

Outside air temperature (OA-T) lockouts are designed to prevent chillers and boilers from operating unnecessarily when the outside air temperature sits within certain thresholds. With the proper controls, chillers won't cool and boilers won't heat the building unnecessarily on days when temperatures can fluctuate between ~14˚C and 20˚C.

Investigative questions to ask

- Is the OA sensor located in a suitable location?
- Is there an alignment between the readings from your building's OA Temperature/Humidity sensor readings and your building analytics software? If not within 2˚C of each other, consider recalibrating or relocating the sensors.
- Are the OA-T lockout setpoints appropriate for the site?
- Do the lockout setpoints need to be reviewed to take into account variable occupancy?

Optimisation tips

Chilled Water System (CHWS)

- If the OA-T is less than 16˚C for 30 minutes, lock out the CHWS
- If the OA-T is greater than 17˚C for 10 minutes, make CHWS available for operation

Hot Water System (HWS)

- If the OA-T is greater than 16˚C for 30 minutes, lock out the HWS
- If the OA-T is less than 15˚C for 10 minutes, make HWS available for operation

2 Cooling tower temperature control

Cooling Towers are used to cool down condenser water for the chillers, by extracting heat from the chillers' condenser. Typically, chiller manufacturers specify the maximum water temperature the chillers can operate with to deliver the cooling requirements. However, there are benefits to reducing the condenser water temperature on the operation of the chillers.

This is usually governed by the amount of moisture available in the air. The psychrometric measurement of this is called wet-bulb temperature. Ideally, you want all cooling towers to track the outside air wet-bulb temperature and control to it with an offset of between 4 and 5˚C.

Investigative questions to ask:

- Is the setpoint fixed for the condenser water temperature?
- Is the minimum setpoint too high?
- Is the minimum setpoint causing the chillers to fault or trip?

Optimisation tips

The condenser water temperature should be reset based on the buildings' outside air temperature wet-bulb + 5˚C (adjustable) with a minimum temperature of 20˚C (adjustable) and maximum temperature of 29.5˚C (adjustable).

3 Chiller cooling & boiler heating calls

For central cooling systems, you want to ensure the chillers kick on at the right time to address the cooling requirements of the building. Engaging the chillers early increases the risk of energy over-consumption and may reduce the life of your equipment over time.

Similarly, boilers should be enabled when needed, not before. Operating boilers earlier than required increases consumption without achieving the desired outcomes and may lead to equipment malfunctions caused by short cycling (frequently turning on and off). Therefore, it's important to set the correct setpoint and time interval for both the chilled and hot water valves.

Investigative questions to ask

- Is the time interval too short or too long?
- Is the chilled water valve responsible for the cooling/heating call reliable?

Optimisation tips

Chiller

- If the maximum chilled water valve position is 90% for 10 minutes, the cooling call is to be generated
- If the maximum chilled water valve position drops below 20% for 10 minutes, the cooling call is to be disabled

Boiler

- If the maximum hot water valve position is 90% for 10 minutes, the heating call is to be generated
- If the maximum hot water valve position drops below 20% for 10 minutes, the heating call is to be disabled

4 Zone temperature setpoints

Zone temperature setpoints are constantly adjusted by Facilities Managers and contractors to address tenant complaints. But it's important to keep the big picture in mind, aligning all setpoints so nearby systems aren't fighting each other.

Sometimes these setpoint adjustments can mask an underlying mechanical issue that needs to be addressed, so it's essential to identify and rectify any underlying issues before adjusting setpoints.

If tenant complaints about temperature control persist, the underlying issue may be resolved by taking some initial investigative steps:

- Confirm correct location of controlling temperature sensor. Ensure it is not in direct sunlight and ensure external factors are not impacting the reading.
- Confirm adequate airflow to the zones where temperature complaints exist. This may require ductwork and air diffuser modifications.
- Clean out the ducts, vents and filters - which can become clogged with grime, dust and debris
- Confirm installation and operation of window shades - Often, building mechanical systems are designed on the assumption that blinds will be lowered when the sun is low. Energy-efficient window coverings can help reduce energy costs and improve comfort levels
- Install more efficient light fixtures - cool light is best to reduce the chance that lighting is warming the thermostat controls and throwing off the temperature
- Add window film - these can improve thermal properties by providing sun control and UV protection, while reducing hot spots

5 Free Cooling (Economy) mode operation

Economy mode, or free cooling, is when outside air is more efficient to cool the building than return air. Economy mode is the first stage of cooling and is complemented by the modulation of the chilled water valve when the supply air temperature is not meeting its setpoint. The potential energy savings from the economy cycle are significant—but only if the proper strategies are in place.

The most common methods for calculating the suitability of outside air to be utilised are:

- Outside air temperature versus return air temperature
- Outside air enthalpy versus return air enthalpy

Potential impact

Buildings realise the greatest benefits of economy mode operation during the cooler periods. Energy savings from the economy cycle primarily derive from reduced chiller operation, with AIRAH estimating savings of up to 20%.

Optimisation tips

Often, economy mode is included in the BMS control logic and may have the required points adjustable, making it easy to tune. The strategies recommended below, in order of priority, are to be utilised to tune or implement economy cycle control for your building.

Strategy 1

Enable economy cycle when the outside air enthalpy is less than the return air enthalpy by 5 KJ/Kg˚ C and the outside air temperature is less than 22˚ C. A hysteresis of 5 KJ/kg and 1˚ C needs to be implemented to prevent short cycling of economy mode.

Optimisation tips cont.

Strategy 2 (when return sensors are not available)
Enable economy cycle when the outside air enthalpy is less than 50~52 kJ/kg° C and the outside air temperature is less than 22° C.

Occasionally, you'll find that the BMS would refer to outside air dew point instead of enthalpy. In this case, enable economy cycle when the outside air dew point is less than 12° C. Again, a hysteresis of 5 KJ/kg and 1°° C needs to be implemented to prevent short cycling of economy mode.

Strategy 3 (When humidity sensors are not available)
Enable economy cycle when the outside air temperature is less than return air temperature and less than 22° C. A hysteresis of 1° C needs to be implemented to prevent short cycling of economy mode.

6 Night purge operation

In warmer climates, buildings require additional cooling during the evening period, when ambient light and temperature conditions are more favourable. In commercial offices that are unoccupied over the weekend, buildings act as thermal storage, and temperatures may soar. This places a massive load on building air conditioning. To minimise this load, a night purge is recommended —preferably on Mondays—to ventilate the building during early morning hours and remove the excess cooling load.

Optimisation tips

Night Purge usually operates when ambient conditions are at their lowest, generally between 2am and 4am. It's purpose is to exhaust the warm air has built up in the building when the internal temperatures are high (> than 25˚C). This usually occurs in warmer climates and is apparent in office buildings when HVAC isn't operated for an extended period (i.e. over the weekend).

Therefore, the recommendation is to operate the supply fan with the economy dampers 100% open to introduce cooler air into the building whilst exhausting the warm air out of the building without operating the central chilled water system. It's important that the fans don't operate for extended periods beyond 1 hour. If operated for more than one hour, an assessment needs to be done on the thermal benefit over the energy consumption.

7 CHW temperature setpoint

The BMS is capable of adjusting the chiller's chilled water (CHW) temperature setpoint based on the building load requirements. Buildings are typically designed with the chilled water set to 6˚ C to maintain internal thermal comfort conditions during the warmest month. Knowing when to raise the temperature setpoint of the chiller is critical, as resetting down too early may impact energy and operation of the chillers, while resetting up might impact thermal comfort for occupants.

Optimisation tips

- Chilled water temperature setpoint shall be allowed to reset between the minimum and maximum setpoints.
- The chilled water temperature setpoint shall reset up if the average chilled water valve position is less than 60%
- The chilled water temperature setpoint shall reset down if the average chilled water valve position is greater than 70%
- The chilled water temperature setpoint will reset at a rate of 0.5˚ C every 5 minutes
  - The minimum chilled water temperature setpoint = 6˚ C
  - The maximum chilled water temperature setpoint = 9˚ C

Case studies

1. Charter Hall: Portfolio efficiency through digital transformation

- 58 office sites covering almost 16 million sq ft
- Nearly half of properties improved NABERS Energy ratings
- 91% indoor environment score, up from 84%
- 19% annual reduction in electricity consumption since 2019

Since partnering with CIM in 2017, Charter Hall, Australia's leading property group, has utilised the PEAK Platform to digitise operations across 58 properties. Spanning almost 16 million square feet, the platform has driven operational efficiency, improved team collaboration, enhanced visibility, and contributed to the company's sustainability goals. Charter Hall's focus on data-driven decision-making has been central to its success in achieving tangible improvements across its portfolio.

Operational efficiency

The PEAK Platform has played a critical role in reducing energy consumption across Charter Hall's portfolio, with a 19% drop since 2019. During periods of low occupancy due to COVID-19, Charter Hall implemented data-driven energy strategies, including optimised operating schedules and remote monitoring of equipment. These measures ensured energy savings while maintaining tenant comfort, which improved from an 84% thermal comfort score in April 2021 to 91% by June 2022.

Portfolio visibility

By consolidating data from 13 providers into one platform, PEAK has given Charter Hall enhanced visibility across its portfolio. The platform monitors 243,000 data points from over 28,000 pieces of equipment, providing actionable insights for decision-making. This centralised data enables better benchmarking, reporting, and performance tracking, supporting both operational goals and Charter Hall's ESG reporting requirements.

Environmental impact

The efficiency gains driven by PEAK have directly contributed to Charter Hall's sustainability goals. The portfolio has saved 17.4 million kWh of energy, avoiding 12,000 metric tonnes of CO_2 since 2019. These efforts have also improved NABERS Energy ratings, with nearly half of the properties increasing their scores, supporting Charter Hall's broader environmental objectives and long-term sustainability targets.

Read the full case study here

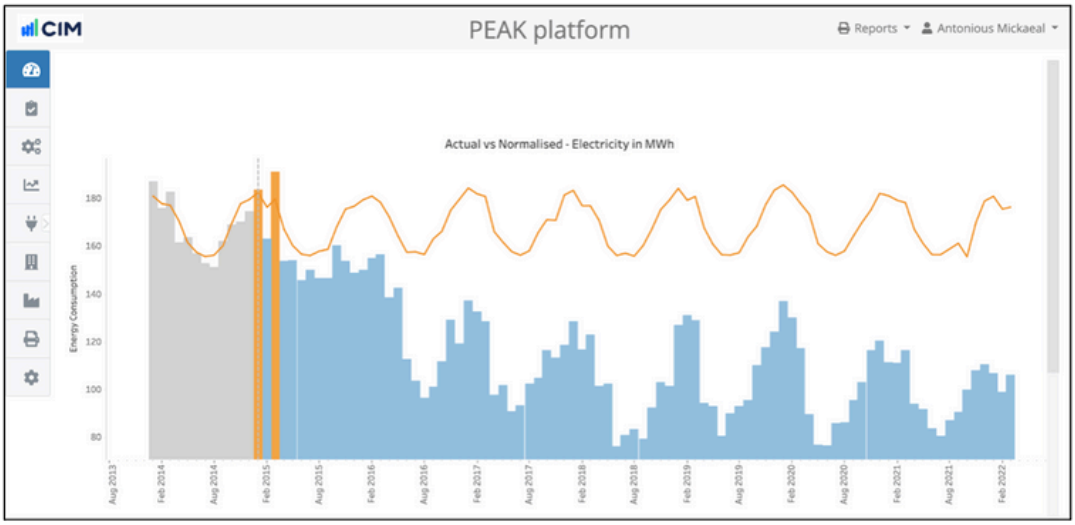
2. Kyko Group: 5 star lift in NABERS Energy for single office

- 5-star lift in NABERS rating
- 32.3% drop in base building energy costs
- 17% improvement in thermal comfort
- 4.8 GWh of energy saved

Kyko Group's 193 North Quay, a 10-story office building in Brisbane, is a shining example of how operational efficiencies and building analytics can combine to promote NABERS rating success. In 2013, the building unofficially received a NABERS rating of 'zero'. This triggered Kyko Group into action, with Director Bill Jenkings engaging CIM. The asset soon saw progressive improvements in its NABERS rating. Today, it boasts an 'Excellent' 5-Star energy rating, exceeding its target rating of 4-Stars.

CIM proposed a series of transformational recommendations at the site, central to which was deploying the PEAK Platform. Initially, given the age of the building, some refurbishments were identified requiring capital expenditure, including upgrades to its Building Management System (BMS) and installation of Variable Speed Drive (VSD's).

Kyko also achieved ROI in just 18 months, despite incurring separate costs over this period to upgrade the BMS and older equipment. Importantly, however, the energy savings achieved by the PEAK Platform made this capital expenditure possible. Further, average thermal comfort ratings are up, energy consumption is down, and tenant satisfaction has lifted. **Watch the video case study here**.



Gradual energy reduction over the course of PEAK's deployment at 193 North Quay

3. Kyko Group: 201 Charlotte Street, Brisbane

Asset snapshot

- 201 Charlotte St, Brisbane
- 143,000 sqft office asset, 15 levels plus 2-level car park.
- Acquired in 2019 by Kyko
- CIM has been deployed since 2019.

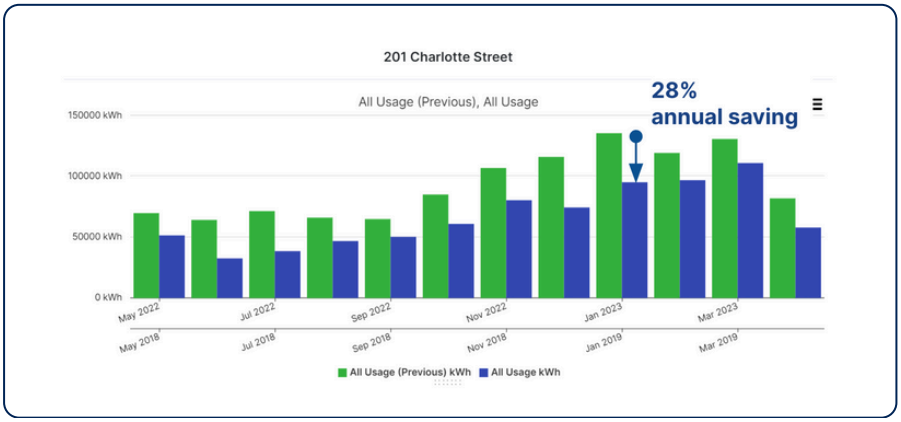
Improved NABERS Energy from 3 to 5 stars

Challenges

- The building had recently been refurbished, yet energy consumption remained high, as reflected on the NABERS rating.
- Some mech upgrades were proposed to improve the efficiency of the building including VSDs for major pumps and chiller upgrades, requiring further Capex on an already “refurbished” building.
- Three different FMs over the last four years and three different BMS technicians, difficult to keep track of strategies.

Outcomes

- NABERS major uplift from 3.0 to 5.0 stars.
- Energy 28% reduction, saving £38k per annum.
- Comfort optimised, maintaining a great yearly comfort score of 86%.
- Capex for mechanical upgrades avoided, still 5.0 stars NABERS and with a margin for improvement.
- Live monitoring of 264 equipment, 182 thermal zones, 1,561 rules.



4. 900 Ann St, Brisbane

Asset snapshot

- 900 Ann St, Fortitude Valley, Brisbane.
- 204,000 sqft office asset, 15 levels plus, built in 2018.
- Acquired in 2016 by Charter Hall for $170m, CBRE is the operator.
- CIM deployed since 2020

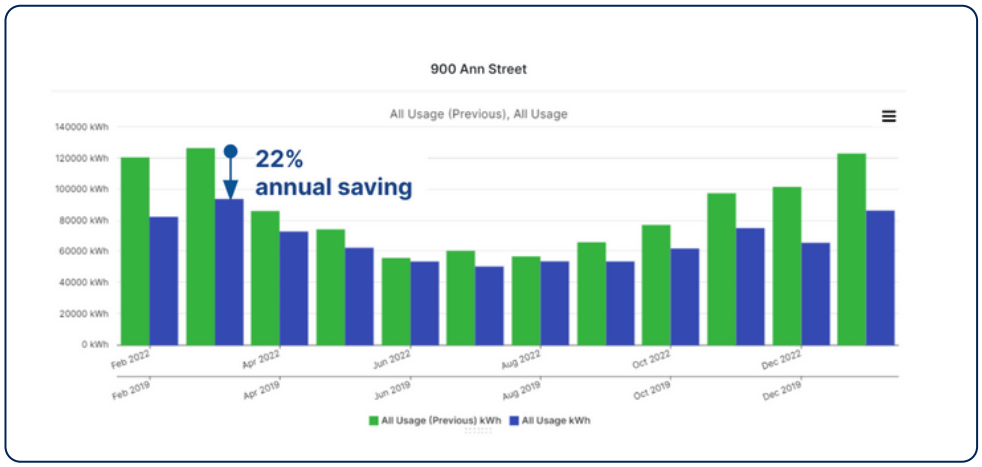
Improved NABERS Energy from 5.5 to 6 stars

Challenges

- The building was constructed in 2018 with a NABERS commitment of 5.0 stars.
- The building was rated at 5.5 stars when CIM was engaged, so “little” opportunity for further improvement.
- The maintenance engineer is quite technical and was initially sceptical towards modifying his traditional maintenance workflows; he is now a very active user of the platform and has been able to further improve the building.

Outcomes

- Achieved the maximum NABERS rating of 6.0 stars from 5.5 stars.
- Energy 22% reduction, saving $55k per annum.
- Comfort, maintaining excellent yearly comfort score of 92%.
- Live Monitoring 566 equipment, 234 thermal zones, 2,094 rules.
- Visibility Single HVAC maintenance contract, PEAK provides increased transparency on building operation.



Webinar: Reducing Operational Carbon with NABERS

After introducing the NABERS framework, this session explores actionable strategies to reduce operational carbon and maximise NABERS Energy ratings. Hear from:

- Karl Welsch, Technical Officer at NABERS
- Jo Hawkings, Director of Asset Management Operations at Pembroke
- Claire Das Bhaumik, Partner at Inkling LLP and NABERS UK Independent Design Review panel member
- Scott Beauman, Head of Customer Success at CIM.

About the PEAK Platform

The PEAK Platform is an AI-powered SaaS solution that improves the financial and environmental performance of property portfolios. PEAK unlocks value by improving the efficiency of operations teams and maximising the performance of plant and equipment. Assets operating at peak performance boast industry-leading tenant satisfaction, occupancy metrics, net operating income and sustainability ratings.

Improving Financial and Environmental Performance

Maximise income

Advanced FDD ensures buildings operate to an efficient, comfortable and non-disruptive standard, facilitating high levels of tenant satisfaction, occupancy and NOI.

- Lift occupancy
- Green premium
- Improve NOI
- Tenant satisfaction

Reduce outgoings

Optimise operational performance for reduced energy consumption, streamlined maintenance contracts and extended equipment lifecycle.

- Delay capex
- Streamline maintenance
- Decrease energy
- Boost productivity

Improve sustainability

Operations teams are empowered to maximise operational and energy efficiency, curbing a portfolio's carbon footprint and lifting its sustainability ratings.

- Improve ratings
- Green finance
- Green leases
- Meet Net Zero targets

Delivering results

19% average saving in electricity per building

20% reduction in maintenance costs via DDM*

2 year extension of equipment lifecycle

**Data-driven maintenance*

Trusted by industry leaders

Charter Hall · LaSalle · GPT The GPT Group · Centuria · QIC · CBRE

Prepare your building for a market-leading NABERS rating by deploying the PEAK Platform.

Get in touch with the experts at CIM today.

Request a callback

Email us at smarterbuildings@cim.io

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