

HOW TO FUTURE-PROOF YOUR HOTEL ASSETS

A practical guide to reducing emissions, improving operational efficiency and strengthening long-term asset value.



**CUSHMAN &
WAKEFIELD**

BETTER BEGINS NOW

As custodians of the built world, we believe we should never settle for the world as we know it, but instead constantly push forward toward a more sustainable one—every day.

We stand by our practical approach to move beyond the hype of future missions and goals, encouraging clients to take simple steps, every day. That's why we've created the How-To Guide Series—a set of clear, actionable items that you, the owner or occupier, can implement right now to make your asset or even your organization more sustainable and better prepared for what tomorrow brings.

By taking action, we can ensure **a better future begins today.**

FUTURE-PROOFING HOTEL ASSETS IS NOW A BUSINESS IMPERATIVE

Rising pressure on performance and value

Hotel owners and operators are facing increasing pressure to adapt, not only to reduce emissions, but also to protect asset value and remain competitive.

Sustainability performance is now directly linked to key business outcomes: operating costs, asset liquidity, access to financing, and guest expectations. Assets that fail to adapt risk higher operating expenses, reduced marketability, and exposure to tightening regulatory requirements.

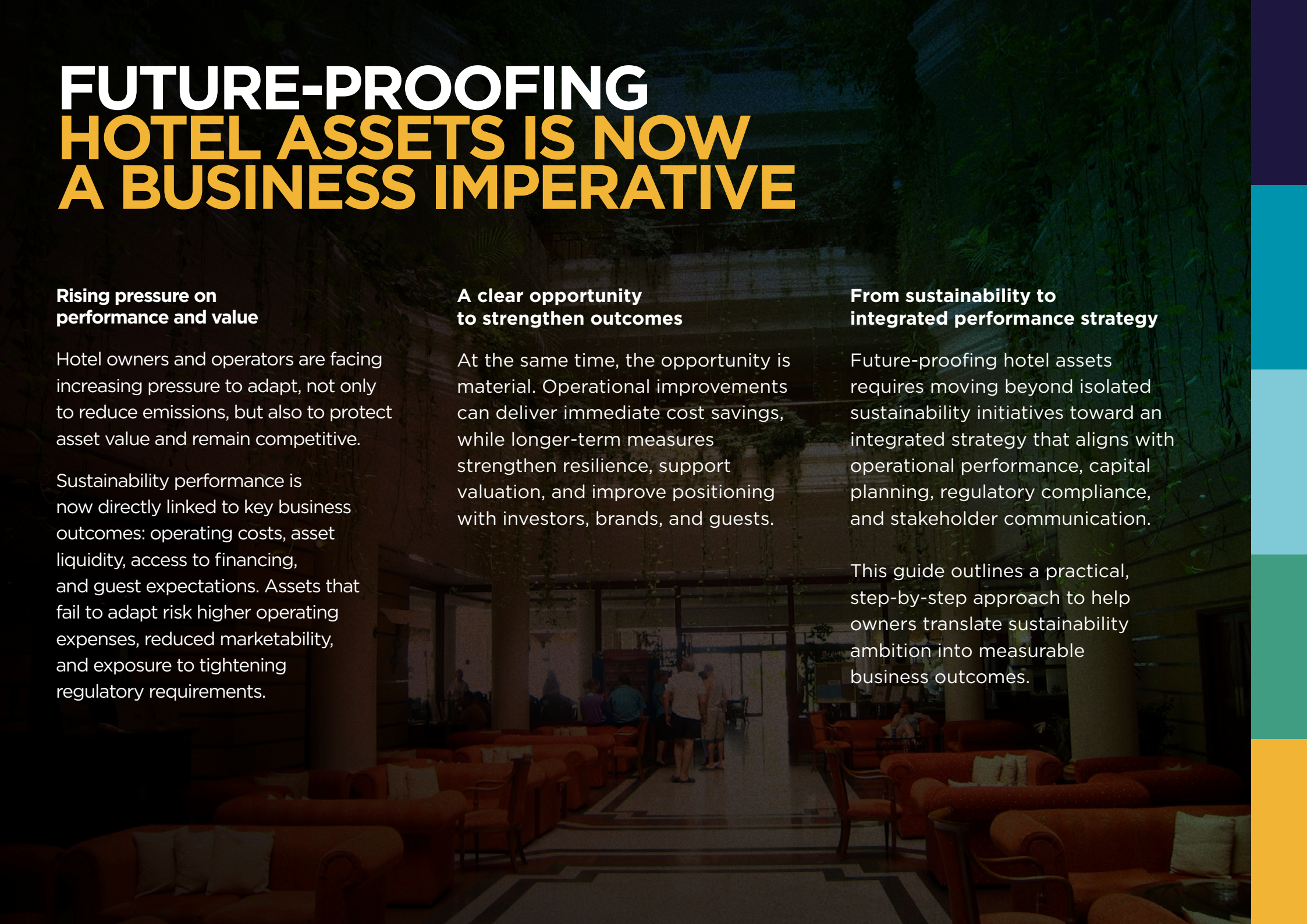
A clear opportunity to strengthen outcomes

At the same time, the opportunity is material. Operational improvements can deliver immediate cost savings, while longer-term measures strengthen resilience, support valuation, and improve positioning with investors, brands, and guests.

From sustainability to integrated performance strategy

Future-proofing hotel assets requires moving beyond isolated sustainability initiatives toward an integrated strategy that aligns with operational performance, capital planning, regulatory compliance, and stakeholder communication.

This guide outlines a practical, step-by-step approach to help owners translate sustainability ambition into measurable business outcomes.



RULES ARE CHANGING ACROSS GLOBAL MARKETS

Regulation is rapidly accelerating decarbonization across the global hotel market—fundamentally changing what is required of owners and operators. From mandatory disclosures to performance standards, sustainability is quickly becoming a core operational and financial requirement, not an optional initiative.

EUROPE

The most advanced regulatory environment globally, with four key frameworks directly affecting hotel owners and operators:

- ✓ **EED (Directive EU/2023/1791, Article 11):** Requires large energy users to measure, monitor, and reduce consumption. For hotel groups, this means ongoing energy tracking and clear action plans to improve efficiency.
- ✓ **CSRD (Directive 2022/2464):** Expands mandatory, audited ESG reporting under the ESRS framework. It applies from 2025 to large public-interest entities, while applicability to other companies has been delayed and narrowed under the Omnibus reforms, with most additional large companies, including hotel groups, expected from 2028.
- ✓ **EU Taxonomy (Regulation 2020/852):** Defines what qualifies as a “sustainable” investment. This directly affects access to capital, as hotels must meet environmental criteria to attract financing and investment.
- ✓ **EPBD (Directive 2024/1275):** Sets minimum energy performance standards for buildings. Hotels with lower-performing assets will need to upgrade to avoid penalties and protect asset value.

ASIA PACIFIC

Mandatory climate disclosure is being introduced across the region, with hotel groups and real estate portfolios among those required to measure, disclose and reduce emissions:

- ✓ **Australia (Treasury Laws Amendment Act 2024):** requires companies to disclose climate-related financial risks and emissions. Hotel operators will need to measure and report emissions, making carbon performance a business-critical metric.
- ✓ **Australia:** NABERS (National Australian Built Environment Rating System) provides a simple, comparable rating of a building's environmental performance. For hotels, stronger NABERS ratings are increasingly tied to asset value, operational performance, and investor expectations.
- ✓ **Singapore and Hong Kong:** Introduce standardized sustainability reporting aligned to global ISSB frameworks. Hotels will need consistent, auditable ESG data, increasing pressure to improve measurement and transparency.

AMERICAS

State-level regulation is driving the most immediate disclosure obligations, with several US states introducing requirements that apply to hotel groups:

- ✓ **State and City Building Performance Standards:** Increasingly, hotel owners must comply with Building Performance Standards (i.e. NYC Local Law 97, DC Building Energy Performance Standards (BEPS), Energize Denver, Boston BERDO, Washington State Clean Buildings Act, and additional emerging municipal and state performance standards) that establish minimum energy or carbon performance thresholds for existing buildings. Failure to meet requirements may trigger penalties, mandatory improvement plans, or capital upgrades.
- ✓ **California SB 253:** Requires large companies to disclose Scope 1, 2, and 3 emissions. Hotel groups operating in California will need full emissions visibility across operations and supply chains.
- ✓ **California SB 261:** Requires disclosure of climate-related financial risks. This elevates climate risk from a sustainability issue to a core financial and strategic priority for hotel owners.

Meanwhile, investors, lenders, insurers and global hotel brands are increasingly tying access to capital and asset value to measurable sustainability performance. Building energy ratings, emissions data, and transition plans are rapidly becoming core commercial requirements rather than optional sustainability initiatives, which makes decarbonization a critical operational and competitive issue for the global hotel sector.

THE OPPORTUNITY AND PATHWAY FOR ACTION

In real estate, and particularly in hospitality, sustainability has a bearing on value and liquidity. Assets with strong sustainability credentials can benefit from valuation premiums, greater investor demand and smoother transaction processes. Financial institutions are tightening lending conditions, with a growing share of banks declining to provide financing for real estate assets without credible sustainability or transition plans, while capital flows increasingly favor sustainability-linked instruments. The limited uptake of comprehensive sustainability assessments among hotel owners highlights a clear gap and a significant opportunity.

WHAT A NET ZERO HOTEL LOOKS LIKE

A net zero hotel is typically the result of a step-by-step decarbonization pathway for its buildings and facilities. This focuses principally on Scopes 1 and 2 emissions which are the most material and immediately actionable in existing hotel assets. The approach follows a hierarchy of milestones, where you move to the next level only after maximizing the last.

LEVEL 1

Reduce energy demand through efficiency measures and advanced control systems

LEVEL 2

Electrify thermal and process uses to progressively phase out fossil fuels

LEVEL 3

Supply remaining energy needs with on-site renewables, prioritizing solar PV, solar thermal and battery storage

LEVEL 4

Complement with off-site renewables through Power Purchase Agreements and certified green energy procurement

LEVEL 5

Offset residual emissions using high-quality carbon credits as a last resort

Continuous monitoring and performance optimization through smart building systems ensures gains are sustained and compounded over time, while also supporting guest comfort and operational efficiency.

Water efficiency is an integral part of the pathway, and doesn't stand alone. Reducing consumption through efficient fixtures, leak detection and water reuse is increasingly critical in markets where water scarcity and rising costs are material operational risks.

FIVE STEPS TO FUTURE-PROOF YOUR HOTEL

Decarbonization works best as a structured, staged process: balancing operations, investment and long-term planning. These five steps offer a practical guide on how you get there.

The process starts with understanding how your hotel currently performs and identifying where operational inefficiencies exist. From there, the focus shifts to identifying where performance can be improved. This includes assessing operational inefficiencies, exploring demand reduction opportunities, the viability of efficiency upgrades, electrification and renewable energy integration. These findings then feed into the business case, before developing a practical implementation roadmap aligned with investment cycles and operational priorities.

STEP 1

UNDERSTAND YOUR
CURRENT PERFORMANCE

1

STEP 2

IDENTIFY EFFICIENCY
OPPORTUNITIES

2

STEP 3

ASSESS ELECTRIFICATION
AND RENEWABLES FEASIBILITY

3

STEP 4

TEST THE
BUSINESS CASE

4

STEP 5

DEVELOP YOUR NET ZERO & WATER
EFFICIENCY IMPLEMENTATION PLAN

5

STEP ①

UNDERSTAND YOUR CURRENT PERFORMANCE

STEP 01

UNDERSTAND YOUR CURRENT PERFORMANCE

“You can’t manage what you don’t measure.” — Peter Drucker

Hotels have energy and water consumption patterns that can vary significantly by occupancy, season, operational function and asset type. An essential first step is understanding where and how this occurs at your hotel, which forms the basis for identifying the right measures, prioritize investments and track progress over time.

A detailed baseline assessment should include utility data analysis, plant and equipment reviews, asset condition assessments, building management system analysis, and occupancy-based demand profiling. Benchmarking against comparable hotel assets and decarbonization pathways can also help identify underperforming systems and future transition risks.

Establishing strong baseline data also creates the foundation for future sustainability reporting, investment modeling and ongoing operational optimization.

WHAT YOU NEED TO COLLECT

ENERGY



ENERGY DATA

Min. 36 months of electricity, gas and fuel consumption, including interval data and any on-site renewable generation, and mapping meters and submeters to areas and end uses.



OCCUPANCY DATA

Months of operation for seasonal floor area, hotels, guests and rooms occupied, aligned to the energy data period.



ENERGY ASSET AND SYSTEMS INFORMATION

Inventory of HVAC, hot water, lighting, kitchen, bathrooms, wellness, swimming pools, green areas, laundry, planned CAPEX, and any special uses with significant impact.

WATER



WATER DATA

Minimum 12-24 months of water bills, excluding closure periods, aligned with occupancy and key water-use areas such as rooms, laundry, F&B, gardens and pools.



METERING AND MONITORING

Identification of plumbing layouts, meter locations, main meters and submeters, prioritizing high-consumption areas such as rooms, laundry, kitchens, pools and spa.



WATER SYSTEMS INFORMATION

Inventory of bathrooms, kitchens, laundry, pools, spas, irrigation, green areas and other systems with significant water impact, including planned upgrades or special uses.

STEP 01

UNDERSTAND YOUR CURRENT PERFORMANCE



DEFINE KEY PERFORMANCE INDICATORS (KPIs)

Calculate key energy and water indicators aligned with both internal management and external reporting needs. It helps to use a combination of area-based and occupancy-normalized metrics because no single indicator fully captures performance across your hotel. Common KPIs include:

- ✓ Energy consumption per occupied room (kWh/occupied room per year)
- ✓ Energy use intensity (kWh/m² per year)
- ✓ Carbon emissions per occupied room (kgCO₂e/occupied room per year)
- ✓ Carbon intensity (kgCO₂e/m² per year)
- ✓ Water consumption per guest night, common areas or other owner controlled parts (liters/guest night/area)
- ✓ Water intensity (liters/m² per year)



BENCHMARK PERFORMANCE

Benchmark your energy and water performance against industry-recognized frameworks and standards to identify the main consumption drivers and highlight the biggest gaps. Hotel comparisons can be complex given differences in typology, service levels and operating patterns, so sector-specific tools are recommended. Where relevant, benchmarking can compare against:

- ✓ CHSB (Cornell Hospitality Sustainability Benchmark)
- ✓ Deepki (market benchmarking and portfolio comparison)
- ✓ CRREM (Paris-aligned goals and transition risk assessment)
- ✓ Hospitality-specific certifications and reporting standards
- ✓ Equivalent national energy rating schemes applied by market
- ✓ CBECS (Energy Star) - Commercial Buildings Energy Consumption Survey

STEP ②

**IDENTIFY
EFFICIENCY
OPPORTUNITIES**

STEP 02

IDENTIFY EFFICIENCY OPPORTUNITIES

Reducing operational demand is often the fastest and most cost-effective way to improve sustainability performance. Operational optimization initiatives can deliver immediate savings while avoiding major disruption to guests and hotel operations. The measures below work across energy and water and should be evaluated together as part of an integrated demand reduction strategy.

THREE KEY ACTION AREAS TO REDUCE ENERGY AND WATER DEMAND

ENERGY REDUCTION



MINIMIZE DEMAND

BMS/EMS, real-time monitoring, occupancy and environment-based sensors, keycard and zonal control systems, optimized SOPs and guest engagement



PASSIVE DESIGN

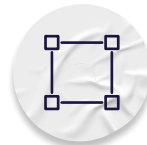
Insulation, high-performance glazing, external shading and airtightness to reduce heating and cooling loads at source



EFFICIENCY

High-efficiency HVAC and DHW systems, heat recovery, variable speed drives, LED lighting with presence and daylight controls

WATER USE REDUCTION



CONTROL

IoT monitoring, smart metering and leak detection to establish continuous visibility of consumption



EFFICIENCY

Low-flow fixtures, water-saving equipment across guest rooms, kitchens and laundry



REUSE

Greywater reuse through collection, treatment and distribution, and rainwater harvesting from roof and impermeable surfaces, and where feasible, irrigation optimization

Preventive maintenance is equally important. Poorly maintained chillers, pumps, boilers and controls can significantly increase operational energy demand and reduce system reliability. Regular servicing, calibration and performance tuning can improve efficiency while extending equipment and fabric lifespan.

SIMULATE BEFORE YOU IMPLEMENT

Hotel heating, cooling and water systems are highly interconnected, which means changes in one area can affect performance elsewhere. Before implementing major operational or efficiency upgrades, consider using thermodynamic simulation to test potential outcomes. This can improve the accuracy of modeling, identify unintended system impacts and reduce the risk of implementation results falling short of expectations.

STEP ③

ASSESS ELECTRIFICATION AND RENEWABLES FEASIBILITY

STEP 03

ASSESS ELECTRIFICATION AND RENEWABLES FEASIBILITY

Electrification is a core pillar of long-term Net Zero pathways. Replacing gas-fired infrastructure with high-efficiency electric systems will significantly reduce operational emissions while supporting renewable energy integration. Of course, feasibility must be assessed case by case, considering distribution temperatures, space constraints and grid capacity.

One key measure is replacing traditional gas-fired domestic hot water and HVAC systems with heat pump technology. Electrification opportunities may also include commercial kitchens, laundries and other operational equipment that currently rely on fossil fuels.

As you transition your hotel towards electric systems, infrastructure capacity becomes increasingly important. Renewable energy integration can further reduce your operational emissions and improve resilience, while lowering exposure to grid dependence and energy market volatility. Electrification strategies should align with broader asset planning, refurbishment cycles, and operational requirements to minimize disruption and maximize long-term value.

KEY ACTIONS ACROSS ELECTRIFICATION AND RENEWABLES INTEGRATION



ELECTRIFICATION ACTIONS

Replace fossil
fuel systems
with heat pump
technologies

Electrify
kitchens,
laundries,
and auxiliary
processes

Integrate
thermal storage
and battery
solutions where
applicable



INTEGRATION OF RENEWABLES

On-site
photovoltaic
installations
on rooftops,
facades or car
parks

Solar thermal
systems for
domestic
hot water
production

Off-site
solutions, such
as PPAs or
certified green
electricity
contracts

STEP ④

TEST THE BUSINESS CASE

STEP 04

TEST THE BUSINESS CASE

Understanding the financial implications of decarbonization initiatives is essential to building a practical and achievable transition strategy. Financial analysis helps you prioritize projects, assess implementation pathways, and design your sustainability objectives with broader commercial outcomes in mind.

Short-term operational improvements such as controls optimization or lighting upgrades can provide relatively short payback periods with limited capital investment. Larger infrastructure upgrades may require longer planning horizons but can deliver stronger operational and emissions reductions.

It is also important to evaluate decarbonization initiatives through a whole-of-life cost lens rather than focusing solely on upfront capital expenditure. Detailed investment modeling should assess CAPEX requirements, operational savings, maintenance impacts, lifecycle costs, utility price assumptions and future regulatory exposure. Scenario modeling can also help you compare staged implementation pathways and prioritize initiatives based on operational impact and investment complexity.

Government incentives, electrification support schemes, renewable energy rebates and sustainable finance products may also improve project feasibility and reduce upfront capital barriers.

DECARBONIZATION AND WATER EFFICIENCY VIABILITY CHECKLIST



ALIGN DECARBONIZATION PLANS WITH CAPITAL PLANS

Review existing asset capital plans and align decarbonization actions identified in the prior steps to key intervention points in existing capital plans, such as major equipment replacements (boiler replacements, etc.). Then, for the remaining steps below, ensure that you assess the incremental (not just overall) cost of the equipment compared to baseline equipment replacement (e.g., heat pump cost minus cost of BAU boiler that is already in the capital plan). We find that for many clients, the incremental cost of energy efficiency or electric equipment is quite marginal when timed correctly.



DEFINE CASH FLOWS

Model CAPEX, OPEX and savings over the asset lifetime, adjusted for inflation, utility price assumptions and available incentives, rebates and sustainable finance product.



INTERNALIZE EXTERNALITIES

Quantify avoided carbon and water impacts, such as through carbon or water credits, where they materially improve decision-making clarity. $\text{payback (years)} = \text{CAPEX}_0 / (\text{Savings} + \text{Externalities} - \text{OPEX})$



CALCULATE PAYBACK & ROI

Estimate the payback period by dividing average annual savings in utilities and OPEX by the required CAPEX. For a more robust investment appraisal, calculate the IRR based on the incremental cash flows between the baseline (status quo) scenario and the scenario incorporating efficiency interventions. $\text{Payback (years)} = \text{CAPEX}_0 / (\text{Savings} + \text{Externalities} - \text{OPEX})$



ESTIMATE IMPACT ON ASSET VALUE

Assess effects on net operating performance, financing conditions and revenue. Reduced energy and water costs improve margins, while stronger sustainability credentials support green finance and occupancy premiums.

STEP ⑤

DEVELOP NET ZERO AND WATER EFFICIENCY IMPLEMENTATION PLAN

STEP 05

DEVELOP NET ZERO AND WATER EFFICIENCY IMPLEMENTATION PLAN

Once your operational assessments and feasibility studies are complete, findings should be consolidated into a practical implementation roadmap. A Net Zero and Water Efficiency implementation Plan serve as your main tool for communication, alignment and decision-making among all stakeholders involved and centers on three key components:



KEY INDICATORS

Define a consistent set of energy, carbon and water indicators to ensure comparability and track the implementation of progressive measures. Include metrics such as ease of implementation, responsibilities, CAPEX, operational savings, ROI, and emissions regulation and standard alignment/compliance



ZERO OVER TIME IMPLEMENTATION ROADMAP

Develop a phased implementation roadmap that aligns the plan with major equipment upgrades, and sequences initiatives by priority level and operational disruption, differentiating between quick wins, immediate actions and long-term structural investments aligned with asset conditions, renovation cycles and occupancy patterns



STAKEHOLDER MANAGEMENT

Tailor the plan to each audience. Financial institutions require focus on risk profile, impact on value and climate transition alignment; impact on demand, guest satisfaction/experience and operational savings. Owners focus on NOI / rent impact, value appreciation and liquidity, asset value appreciation and potential rent adjustments

Decarbonization success depends as much on operational governance as on technical measures. Clear responsibilities, defined roles and regular reviews help turn the plan into action, sustaining momentum through implementation and keeping performance, net zero and water efficiency goals on track.

HOTEL DECARBONIZATION IN ACTION

Cushman & Wakefield was engaged to develop and deliver a decarbonization strategy to reduce energy use, lower emissions, and improve long-term operational performance.



HOTEL ARTIEM CARLOS

ES CASTELL, MENORCA, SPAIN

4-star, 85 rooms, open March to November,
85% average occupancy, starting energy rating B-B not
CREEM aligned but below industry benchmarks (CHSB).

TECHNICAL

- ✓ Air conditioning runs on three heat pumps feeding two-tube fan-coils
- ✓ Domestic hot water uses two 1,500-litre tanks
- ✓ LED lighting in all areas and advanced BMS
- ✓ Rooftop solar contributing ~14% of annual energy demand

STRATEGY

The project was commissioned to support the owner's commitment to achieving 100% decarbonization by 2030. The approach to decarbonization followed the recommended strategy, beginning with demand management and energy efficiency, with plans to progress electrification and renewables integration.

- ✓ Demand and efficiency: improvement of carpentry, replacement of the fuel boiler for hot water system, and recovery of heat in showers.
- ✓ Electrification and renewables plan: electrify domestic hot water and kitchen, add solar thermal and expanded rooftop solar array.

RESULTS

- ✓ A total €2m in CAPEX led to a reduction in energy by 43%, with energy intensity down from 112.5 to 63.9 kWh/m²/year.
- ✓ Expansion of on-site renewables is the next step toward Net Zero.
- ✓ A-A Energy Performance Certificate obtained, upgraded from B+B, and Energy Use Intensity 51% lower than industry benchmarks (CHSB).

HOW WE CAN HELP



Cushman & Wakefield supports hotel owners and operators across the full decarbonization journey, from operational assessment and optimization through to implementation planning, reporting and ongoing performance management.

Our approach combines sustainability strategy, engineering insight, operational analysis and capital planning to help clients reduce emissions, improve resilience and support long-term asset value

STEPS

HOW CUSHMAN & WAKEFIELD CAN SUPPORT

1

STEP 01 UNDERSTAND YOUR CURRENT PERFORMANCE

- ✓ Energy, carbon and water benchmarking
- ✓ Building operations reviews and benchmarking
- ✓ Asset condition reviews
- ✓ Sustainability KPI tracking and analysis
- ✓ Alignment with current and upcoming legislation

2

STEP 02 IDENTIFY EFFICIENCY OPPORTUNITIES

- ✓ HVAC optimization
- ✓ Controls tuning
- ✓ Energy and water audits
- ✓ Maintenance strategies
- ✓ Operational efficiency programs

3

STEP 03 ASSESS ELECTRIFICATION AND RENEWABLES FEASIBILITY

- ✓ Electrification pathways
- ✓ Infrastructure assessments
- ✓ Renewable energy feasibility studies

4

STEP 04 TEST THE BUSINESS CASE

- ✓ CAPEX planning
- ✓ Lifecycle modeling
- ✓ Business case development
- ✓ Sustainable finance advisory

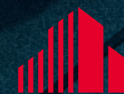
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STEP 05 DEVELOP NET ZERO & WATER EFFICIENCY IMPLEMENTATION PLAN

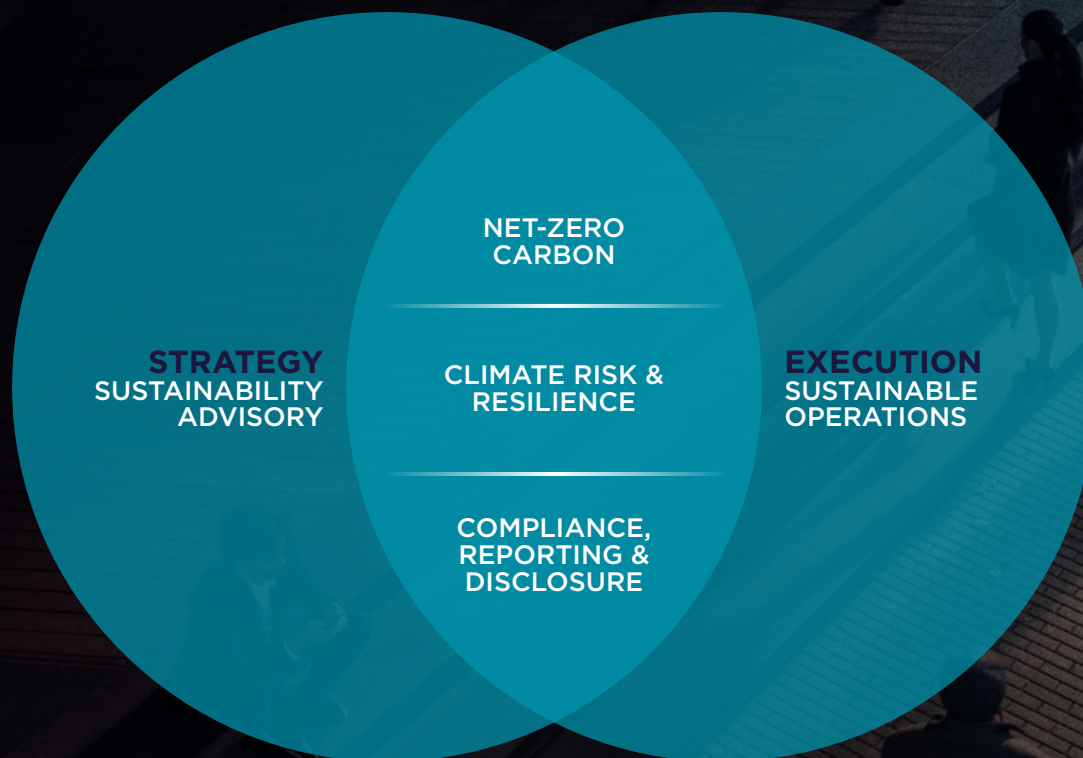
- ✓ Sustainability roadmaps
- ✓ Governance frameworks
- ✓ ESG reporting
- ✓ Ongoing performance monitoring

WE THINK & WE DO

WE CAN CREATE YOUR STRATEGY AND IMPLEMENT IT TOO.



CUSHMAN &
WAKEFIELD



SUSTAINABILITY ADVISORY

We develop **strategies** to tackle challenges, meet stakeholders' expectations, and deliver on your corporate responsibilities.

NET-ZERO CARBON

We assess your baseline, create roadmaps and optimize your path to net zero. Then we help you **deliver net-zero**.

CLIMATE RISK & RESILIENCE

We assess the **climate-related impact** on your assets and then help you manage, mitigate and disclose your risks and opportunities.

REPORTING & DISCLOSURES

We help you **navigate** the complex compliance landscape and **demonstrate and communicate** impact, through our reporting and disclosure solutions.

SUSTAINABLE OPERATIONS

We help you **manage** your buildings responsibly. We benchmark, plan, monitor and then report progress.

SUBSCRIBE TO OUR HOW TO GUIDES



HOW TO DECARBONIZE YOUR HOTEL

A practical guide to reducing emissions, improving operational efficiency and building long-term asset resilience.

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ABOUT CUSHMAN & WAKEFIELD

Cushman & Wakefield (NYSE: CWK) is a leading global commercial real estate services firm for occupiers and investors with approximately 53,000 employees in over 350 offices and nearly 60 countries. In 2025, the firm reported revenue of \$10.3 billion across its core service lines of services, Leasing, Capital Markets, and Valuation and other. Built around the belief that Better never settles, the firm receives numerous industry and business accolades for its award-winning culture. For additional information, visit www.cushmanwakefield.com