Global Energy Management System Implementation: Case Study
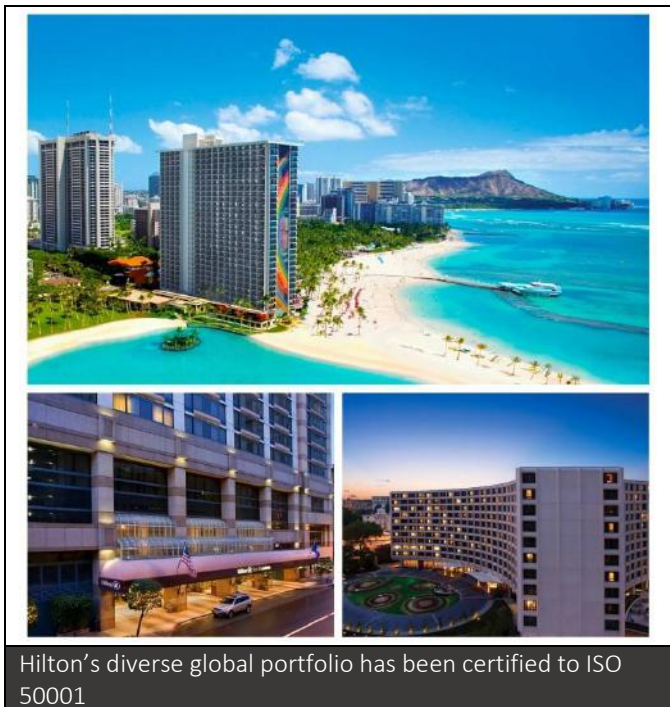
Hilton

First hospitality company to achieve portfolio-wide ISO 50001 certification

Hilton's diverse global portfolio has been certified to ISO 50001

Background

Founded in 1919 by Conrad N. Hilton, Hilton is one of the largest and fastest growing hospitality companies in the world. In the nearly 100 years since its founding, Hilton has defined the hospitality industry through a diverse portfolio of 14 brands comprising over 5,100 properties in 103 countries.

Energy is typically a hotel's second highest operating cost after labor, and Hilton has a long history of carefully managing energy consumption across its global portfolio, beginning with the creation of energy management manuals in the 1970s. Hilton continued to focus on saving energy over the years, and in 2006 the company began to seek a comprehensive corporate strategy that could be applied globally.

In 2008, Hilton set five-year sustainability goals to reduce energy consumption, carbon emissions and waste by 20%, and water consumption by 10%. To measure and report performance on these goals, Hilton developed LightStay, a proprietary sustainability measurement system which enables every hotel to track and analyze over 200 sustainability-related metrics, including energy. LightStay, use of which is required for both managed and franchised properties globally through Hilton's Brand Standards, enabled the company to set property-level energy, water, and waste goals, and track individual and collective performance against the corporate sustainability targets.

Embedded in Hilton's operations is a culture of continuous improvement. Hilton leadership became interested in ISO 50001 as soon as it was published in 2011, as an opportunity to further drive portfolio-wide global energy improvement. The 2012 promulgation of the Energy Efficiency Directive by the European Commission strengthened the business case to certify, as under the EED Hilton's European properties are required to either perform an energy audit every five years or be ISO 50001 certified. ISO 50001 offered Hilton a strong return on investment and the opportunity to drive global improvement.

Hilton officially started implementing ISO 50001 in 2013, and achieved portfolio-wide certification in 2014. Hilton's ISO 50001 certification complimented the company's existing ISO 9001 (Quality Management) and ISO 14001 (Environmental Management) certifications, achieved in 2011, and made the Hilton triple ISO certification one of the largest ever volume certifications of commercial buildings.

Since obtaining ISO 50001 certification, energy management has continued to be a key focus at Hilton and the organization continues to seek opportunities to

further drive performance and take energy management to the next level. This has included implementing the US Department of Energy's Superior Energy Performance (SEP) modelling in the LightStay system, and becoming the first company to certify a commercial building to SEP in 2015. Today, Hilton has six SEP-certified hotels and has achieved significant business benefits from its energy management through ISO 50001.

> *"ISO 50001 provides a clear framework that encourages our Team Members to identify opportunities for improvements and efficiency projects. This process helps them see how important their individual roles are to reaching our goals."*
> —Maxime Verstraete, VP of Corporate Responsibility, Hilton

Business Benefits Achieved

Hilton has realized significant financial and environmental from its energy management program and ISO 50001 certification. From 2008 to 2016, Hilton saved over $783 million on cumulative energy costs, and improved energy performance by 18.60%. Cumulatively, Hilton has saved nearly $1 billion in utility bills through management of energy, water and waste in LightStay since 2008.

These tangible benefits have enabled Hilton to increase the value proposition for LightStay, enabling the company to invest in new functionalities in the platform, such as improved modelling, checks, and alerts, to further drive ISO 50001 compliance and energy performance. ISO 50001 also helps Hilton better manage risks around utility costs and has enabled the company to shift the way it manages energy from looking at opportunities on a project-by-project or budget line basis to a systematic and holistic approach.

Finally, ISO 50001 certification has enabled Hilton to strengthen its leadership position and credibility as a corporate responsibility leader. In 2016, LightStay was awarded Environmental Leader's Product of the Year

and Hilton was applauded for its innovative use of the platform to forecast energy consumption and predict the impact of performance on cost. In 2016 Hilton participated in the US DOE's Better Buildings SWAP, which showcased Hilton's leadership and successful energy savings. Also in 2016, Hilton was ranked of the highest ranked hospitality companies on Newsweek's Top Green Companies list. Most recently, in 2017, Hilton made the Dow Jones Sustainability Index (DJSI) for the first time, after a rigorous assessment of the company's long term economic, social and environmental asset management plans.

Case Study Snapshot	
Industry	Hospitality
Product/Service	Hotels
Location	McLean, Virginia (Headquarters) 5,100+ hotels globally
Energy Management System	ISO 50001
Energy Performance Improvement Period	2008-2016 (8 years)
Energy Performance Improvement (%) over improvement period	18.60%
Total energy cost savings over improvement period	$783,705,410
Payback period (years) on EnMS implementation	< 1 year
Total Energy Savings over improvement period	5,752,611 GJ
Total CO₂-e emission reduction over improvement period	769,356 MT CO_2e

EnMS Development and Implementation

Hilton implemented its EnMS through its LightStay system, use of which has been required at every Hilton property since 2009. By integrating the ISO 50001 certification process with required data systems and with the existing ISO 9001 and 14001 certifications, Hilton was able to realize efficiencies that otherwise would not have been achievable. Using LightStay, Hilton was able to implement ISO 50001 in less than 12 months, and achieved a payback period of less than one year. The company found that internal support, including financial resources, were easy to obtain given the projected return on investment from the EnMS.

The ISO 50001 certification was implemented by a six person central team, with involvement from key stakeholders across many departments of the business, including Property Operations, Engineering, Guest Satisfaction, Quality, Legal, and Supply Chain. Hilton's certification body, DEKRA, was also key stakeholders. As a large company, collaboration across many business units was key, and Hilton benefitted from having all of its centralized functions at the corporate headquarters where different team members could work together to provide oversight of the certification process.

> *"Hilton is a shining example of how companies can use ISO to manage their operations in the most efficient, effective, and sustainable way possible. Improving energy performance through ISO 50001 not only reduces greenhouse gases, but reduces costs. Hilton is leading the industry in showing that this isn't just an environmentally friendly thing to do, it is good for the bottom line."*
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> — Dr. Cem O. Onus, Managing Director of Systems for DEKRA Certification, Inc.

Energy Review and Planning

Hilton has undertaken detailed energy reviews at hotels and developed energy management manuals since the 1970s, but universal adoption of the LightStay reporting system in 2009 enabled the company to easily and systematically oversee and manage energy use across all of its global properties. This enabled Hilton to track of property-level energy performance indicators, efficiency projects, actions plans, and measurement initiatives, allowing leadership at the corporate and the property level to identify where to focus resources.

In order to gain comfort with the accuracy of data being reported through the EnMS, all Hilton energy, carbon, water and waste data are assured by an independent third party on an annual basis. Data entry is also verified through the LightStay system, which including building modelling and data alert functionalities that inform a property if the data that has been entered appears to be inaccurate, based on historical performance, weather, occupancy, peer performance, and other factors. Through these assurance processes, Hilton is able to validate the energy results and gain comfort with the performance being reported in LightStay. Hilton reports its global sustainability performance annually through its Corporate Responsibility Report and to the Carbon Disclosure Project.

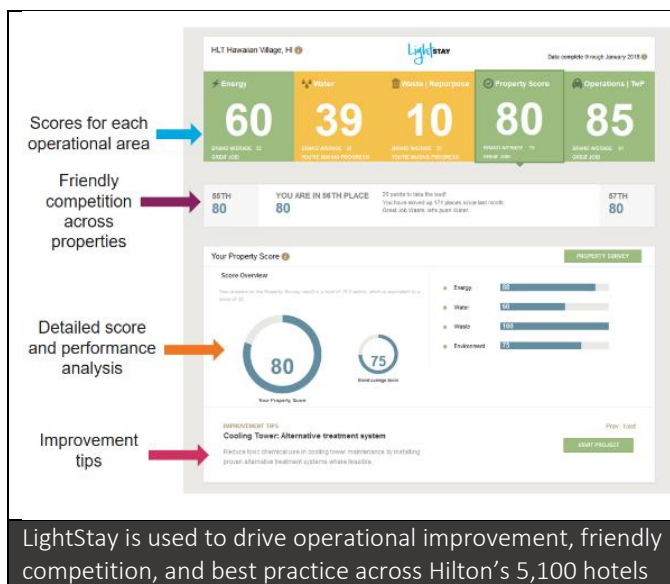## Tools, Resources and Training

Through use of its innovative LightStay system, Hilton is able to maintain operational control and sustain energy performance improvement over time across a large global portfolio.

Hotels are required by the Brand Standard to enter energy, water, and waste data into LightStay on a monthly basis, and every property set reduction goals and demonstrate ongoing improvement projects for energy, water and waste. LightStay also has innovative features such as colored tiles that score properties on their performance, charts that incentivize friendly competition amongst peer hotels, and a library of

improvement projects that properties can draw upon as best practice examples.

All Hilton employees at the hotels and corporate offices are able to access LightStay and its associated training modules, and employees receive regular communications around upgrades and updates.

Through LightStay's innovative and interactive engagement with the hotels, Hilton has been able to institutionalize environmental management best practice into ongoing operations.

LightStay is used to drive operational improvement, friendly competition, and best practice across Hilton's 5,100 hotels

Lessons Learned

- Having a documented EnMS is key to sustained improvement, especially over a large portfolio.

- Third party oversight and verification from a recognized protocol assures sustainability and provides confidence in the numbers being reported.

- Looking at energy from a system perspective versus at the project level brings a new approach, and helps shift from a budget-line view to a deeper analysis of portfolio energy use.

- Use of an EnMS allows a company to track and stay ahead of upcoming legislation, which is extremely beneficial.

Keys to Success

- Companies should ensure that they have a robust system that can track energy consumption and raise alerts when consumption deviates from expected boundaries. This can be managed on a site-by-site basis, but for large portfolios this is better managed through a central system.

- All team members can and should be trained on energy management, even if this is done in a basic way. The key is to tie the topic to their individual jobs and daily activities in a way that is meaningful to them.

- Close collaboration, both internally across all relevant internal departments as well as externally with certification and assurance partners, is key to achieve ISO 50001 certification. Provide clear communication lines to business units to ensure that people understand the requirements of the certification.