

## The Athenee Hotel, a Luxury Collection Hotel, Bangkok

The Athenee Hotel, a luxury hotel in Thailand, is implementing energy conservation efforts to promote sustainability and respond to rising energy costs. Utilizing an ESCO service, energy consumption was visualized by the introduction of a BEMS and optimized by variable flow rate control of chilled water and cooling water pumps, achieving consistent energy savings.



**The Athenee Hotel, a Luxury Collection Hotel, Bangkok**

Location: 61 Wireless Road, Lumpini, Pathumwan, Bangkok, Thailand  
Founded: October 2017  
Facility details: Hotels, restaurants, conference/banquet halls, etc.



### Energy conservation at operating facilities helps to meet society's need for environmental measures

Asset World Corporation Public Company Limited (AWC), a comprehensive real estate group representative of Thailand that meets the needs of a variety of lifestyles, is a member of the Thai Charoen Corporation Group (TCC), a major conglomerate in Thailand. Its main business is real estate, and it develops luxury hotels and various commercial facilities. Under the philosophy of "Building a Better Future," it aims to fulfill its responsibilities to all stakeholders throughout its corporate activities.

With energy conservation efforts progressing on a global scale and keywords like "SDGs"\*<sup>1</sup> and "carbon neutrality" proliferating, the Thai government formulated its National Energy Planning Framework in August of 2021. Against the backdrop of society's need for environmental conservation and rising energy costs in recent years, AWC decided to implement further energy conservation at its affiliated hotels and commercial facilities and promote domestic environmental measures. As the starting point in this endeavor, energy-saving measures were implemented at The Athenee Hotel, a Luxury Collection Hotel, Bangkok, a five-star Marriott Group hotel located in central Bangkok. The Athenee Hotel has deep ties to the Thai royal family,

and was built on the site of the Kandavas Palace of Princess Valai Alongkorn.

"At The Athenee Hotel, each facility was operated and managed manually by the company's personnel, making it difficult to understand and analyze energy consumption in detail. In order to achieve efficient and sustainable energy conservation, a systematic approach was needed, namely by introducing a central monitoring system to visualize the energy consumption of the entire hotel and perform appropriate analysis and improvements, but this was difficult to implement partly because of the cost of upgrading equipment," says Soammaphat Traisorat, vice chairman of the hotel's executive committee.

### Total energy-saving measures that take the entire building into account

AWC decided to use an ESCO,\*<sup>2</sup> allowing it to take advantage of the vendor's expertise while keeping upfront investment to a minimum. As its partner, it selected Azbil (Thailand) Co., Ltd., which had proposed energy-saving measures jointly with Fuyo General Lease (Thailand) Co., Ltd., a local affiliate of Fuyo General Lease Co., Ltd.

"The azbil Group has a strong track record of providing innovative solutions and services to optimize energy consumption in various

industries. We had a high opinion of their ability not only to save energy for individual air conditioning and lighting equipment, but also for the entire building as a system,” says the general manager of the hotel, Choo Leng Goh.

In addition, the hotel's management felt comfortable with their choice because Azbil was able to propose solutions tailored to customers' specific needs and goals, and because Azbil had a proven track record in other ESCO projects, including large-scale commercial facilities in Thailand.

AWC entered into a partnership agreement with Azbil Thailand in June of 2021. Azbil's savic-net G5 building management system was installed as the BEMS\*<sup>3</sup> at The Athenee Hotel in January of 2022. ESCO-based guaranteed energy-saving service started in October of 2022. With the introduction of the BEMS, equipment that had previously been operated manually in The Athenee Hotel has been automated, and energy usage is now monitored in real time. As a specific energy-saving measure, variable speed drives (VSDs) were installed for the chilled water and cooling water pumps in the chiller plant to control the flow rate according to the air conditioning load and to optimize pump operation. This achieved a reduction in power consumption. Azbil Corporation analyzes the equipment operation data collected by the BEMS and evaluates the energy-saving effectiveness. Reports are sent from Azbil Thailand to AWC every month so that continuous improvements in energy efficiency can be made.

## As operation continues, operational problems are solved one after another, making solid progress toward energy-saving goals

The four-year ESCO contract period, which began in October 2022, uses the average value of The Athenee Hotel's total energy consumption (in kWh) from 2017 to 2019 as a baseline, and on that basis sets a goal of an approximately 8% reduction of energy consumption for the entire building. Azbil's BEMS is expected to contribute to achieving more than 50% of the goal.

“With the help of the azbil Group, we are continuously monitoring and analyzing the equipment operating status using the BEMS to identify issues and make improvements, and we feel that we are on track to achieve our goals. Additionally, through a series of initiatives and reports, we were able to see tangible energy savings. Also, we have been more aware of environmental measures and energy conservation in The Athenee Hotel, which I believe is a major achievement,” says Teerayut Chuchai, director of engineering.

Regarding future energy-efficiency measures at The Athenee Hotel, AWC is considering improving the environmental performance of the building by increasing chiller efficiency and introducing solar power generation. It is also considering green building certification,\*<sup>4</sup> such as by the U.K.'s BRE Environmental Assessment Method (BREEAM) or by the U.S. company Leadership in Energy and Environmental Design (LEED).

Additionally, AWC aims to apply the know-how gained through the present energy-efficiency measures to other hotels, commercial facilities, and office buildings it operates, to further contribute to the

preservation of the Earth's environment.

“The azbil Group has the experience and technical knowledge, and is a dependable partner for organizations that want to improve energy efficiency. We plan to have Azbil Thailand participate in energy-saving projects for two more new facilities. We intend to strengthen cooperation with our partner, Azbil Thailand, not only to optimize the energy use of each building we operate, but also to develop initiatives that contribute to the preservation of the Earth's environment,” says Mr. Traisorat.

savic-net is a trademark of Azbil Corporation in Japan and/or other countries.



A savic-net™G5 monitoring screen for the new BEMS. The operating status of equipment can be checked with easy-to-understand graphics.



Chillers in the heat source machine room produce chilled water for air conditioning. The BEMS automates the start/stop of equipment according to schedules and controls the number of units that are operating.



Pumps (left) send chilled water and cooling water to the air conditioners while VSDs (above) control the variable flow rate of the pumps.

## Glossary

### \*1 Sustainable Development Goals (SDGs)

International goals adopted at a United Nations summit in 2015 for the period from 2016 to 2030. Seventeen goals and 169 targets were established in order to achieve a sustainable, diverse, and inclusive society where no one will be left behind.

### \*2 Energy service company (ESCO)

An ESCO guarantees a certain level of energy savings through the provision of comprehensive services for the reduction of energy consumption in a factory or building.

### \*3 Building Energy Management System (BEMS)

A system that automates energy-efficiency monitoring and control of all energy-consuming equipment in buildings, factories, and district heating and cooling plants.

### \*4 Green building certification

External certification to guarantee the performance of efforts to reduce the environmental impact of buildings and improve occupants' comfort.



**Soammaphat Traisorat**  
Director, Vice  
Chairman of  
the Executive  
Committee



**Choo Leng Goh**  
General Manager  
of The Athenee  
Hotel



**Teerayut Chuchai**  
Director of  
Engineer