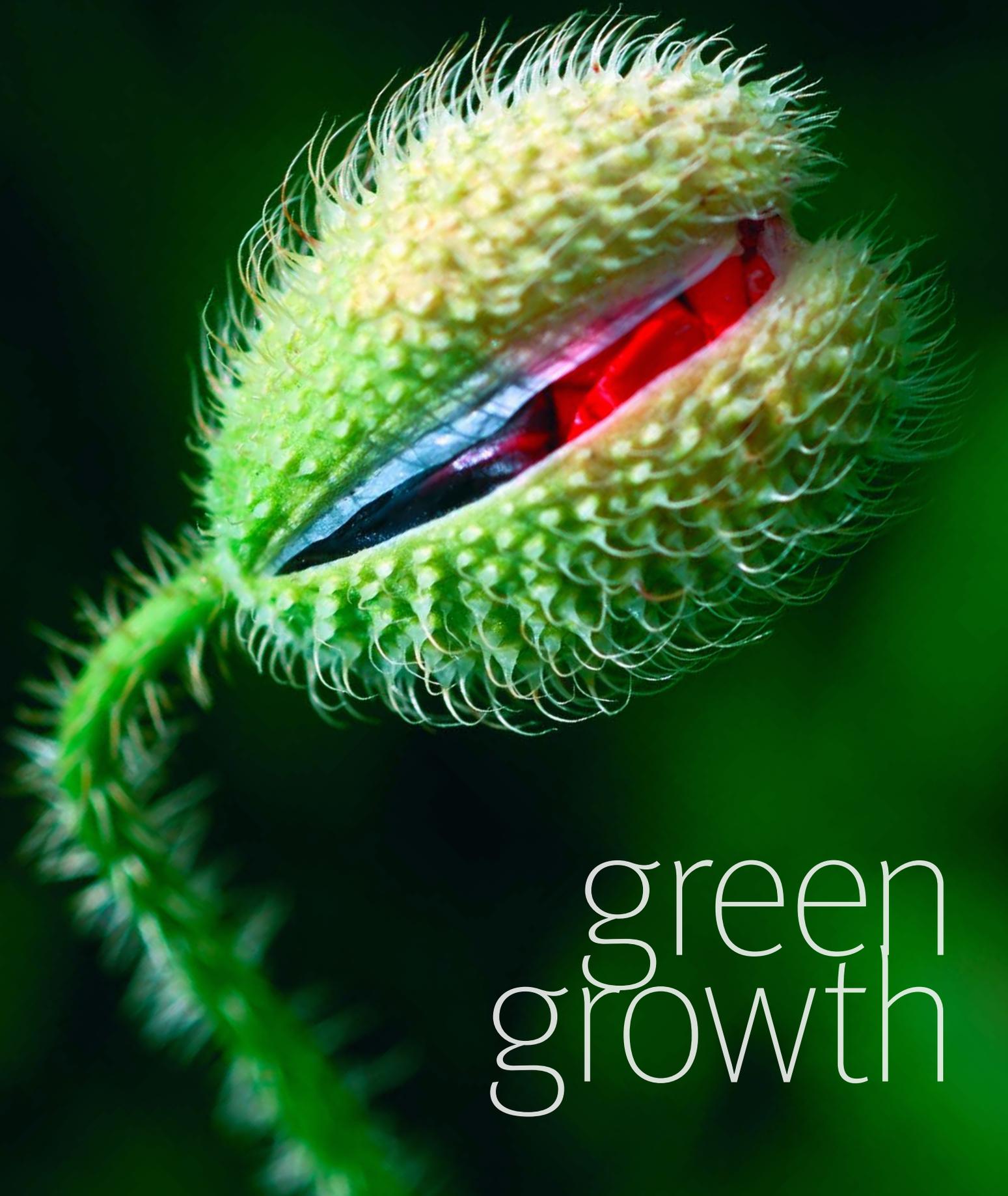




focus

#105

Your gateway to International Standards



green
growth

From humble beginnings as a small Singapore-based family business, HSL Constructor Pte Ltd. grew to become a key player in the world of civil engineering. But at the pinnacle of its success and with soaring energy bills, the company was forced to overhaul its entire power system to make the energy it used work harder.



Singapore cuts carbon and costs

We wanted our energy management to be sustainable.

Becoming energy-efficient should be our highest priority. Civil engineering and construction firm HSL Constructor Pte Ltd. discovered this the hard way. Founded in Singapore in 1994 as a small start-up company in the marine civil engineering sector, HSL soon became the leading provider of innovative engineering solutions, leaving an impressive trail of landmark projects across virtually every industry requiring foreshore structures and facilities.

Helmed by visionary leaders and a passionate team of professionals, the company has since taken its reputation for quality to new levels, branching out into related areas including plant engineering, industrial building construction, ground engineering and third-party inspection services, both on land and at sea. But with tight budgets, environmental pressures and rising energy demands clamouring for attention, HSL had to take action. Improving energy performance and cutting costs, while still honouring its environmental commitments seemed like a tall order. To help bring its energy consumption under control, HSL turned to ISO 50001, the world's leading energy management system standard, gaining an internationally recognized certification in the process. Here, *ISOfocus* asks Grace Lim-Quek, Head, HR & Administration, at HSL, how the Singaporean engineering company played the power game.

***ISOfocus*: What prompted HSL to use ISO 50001?**

Grace Lim-Quek: Each year, HSL consumes approximately 332 000 kWh of electricity. Our energy consumption has been on the rise since 2009 – hitting an all-time high of 373 000 kWh – but we knew we could reduce it. We decided to go ahead with ISO 50001 certification because we wanted our energy management to be sustainable. The standard provides detailed specifications on all aspects of an energy management system. Now, with a certification to maintain, we are impelled to follow the standard's requirements to ensure our energy management efforts remain sustainable.



Photo : HSL

Appointed trained personnel manually gathers data (i.e. quantity of diesel) from the diesel storage tank.



Photo : HSL

Collecting the meter reading (hour) from one of the identified significant energy uses (SEUs) equipment.



Photo : HSL

One of the power meters that monitors the energy consumption patterns for individual floors.

Can you briefly describe the steps that were taken to implement the standard?

We carried out a stringent assessment of our processes in order to track our energy use. The investigation involved analysing our energy data and organizational factors such as our scope for improving the way we use energy. This resulted in a set of nine significant energy uses (SEUs), which we felt painted an accurate picture of the organization's energy performance at that time. Once we had identified the SEUs, we were able to set ourselves realistic targets to improve our performance. But in order to do that, we needed to fully analyse our current energy performance, which involved mapping out how efficiently these SEUs were functioning and determining the factors affecting their performance. This, in turn, helped us earmark a number of energy-saving opportunities. By assessing the potential savings, efficiency and process improvements, we were able to define challenging yet achievable targets.

What was the biggest challenge you encountered?

Without a doubt, our biggest challenge was ensuring the integrity of the diesel data collected on some of the equipment for monitoring and analysis purposes. There is limited technology on the market to automate this process, so the data collection has to be done manually. This poses real problems because of the broad range of equipment we use.

How many staff were involved in the project?

Our energy management team consists of five people, who work on the project part time.

What were the main results and impacts of implementing the standard?

The reason we embarked on energy management in the first place was because our Chairman was concerned about HSL's carbon footprint. So we're right on target as one of the tangible benefits of ISO 50001 has been a marked reduction in our environmental impact through lowering our greenhouse gas emissions.

It has been a win-win situation all round. Defining data collection methods and processes has increased our



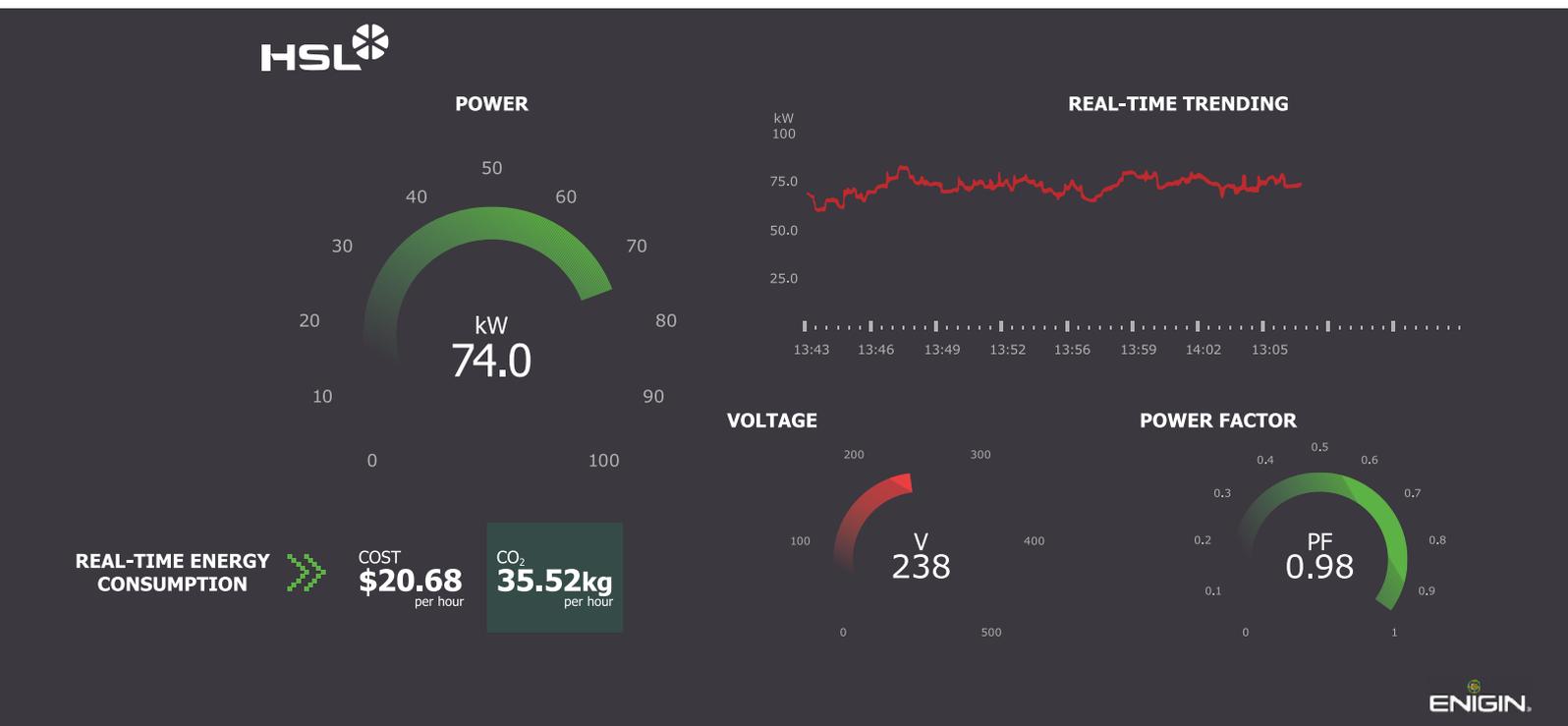
Photo : HSL

Upgrading towards stronger human capital – Grace Quek-Lim, Head of HR & Administration at HSL.

understanding of energy consumption, helping us boost our energy efficiency and performance while reducing the overall costs. This has led to greater transparency on how our energy resources are managed, which has done our public image the world of good. But an unexpected and extremely positive side-effect has been the sense of empowerment it has given our employees who now feel they have a responsible role to play in the planning and management of resources. At HSL, we pride ourselves on leading by example ; our efforts have been instrumental in promoting energy management best practice and good energy management behaviour – both within the company and without!

What advice would you give to other businesses thinking of implementing ISO 50001?

Get senior management on board ! This is crucial to ensure you are allocated all the resources you need to implement the standard. *vr*



A screen monitoring electricity consumption in real time is displayed in the lobby to keep employees motivated.