

Joint press release

Jurong, Singapore, March 05, 2021

Press release by Siemens Energy and PacificLight Power Pte Ltd

Accelerating Singapore's Carbon-Lite Future with The Region's First Advanced Turbine Efficiency Package (ATEP)

- Significant fuel savings and reduction of CO2 emissions to improve Singapore's carbon footprint
- The first ATEP to be implemented in Asia by customer PacificLight Power Pte Ltd
- Increases efficiency for base and part load operation of gas turbines at the existing power plant with cutting-edge technology and aerodynamic design

The first-ever Advanced Turbine Efficiency Package (ATEP) will soon be implemented in Asia for customer PacificLight Power Pte Ltd at its existing 800MW power plant in Jurong Island, Singapore, following a recent agreement signed with Siemens Energy. Under this ATEP, new hot gas path parts have been designed using the most advanced, cutting-edge turbine technology. The advanced profiling and aero features, ultra-efficient internal cooling and sealing, optimized stage loading, advanced materials and manufacturing methods will deliver higher operational efficiency, hence significantly reducing carbon emissions.

This design is derived from Siemens Energy's continuous development of gas turbine enhancements and is modelled on the well-proven SGT5-4000F gas turbine with a total fleet size of more than 300 units worldwide and based on advanced computational methods used in the Siemens Energy HL-class turbine. Once implemented at PacificLight Power's 2 X 400MW plant in Singapore, the gas turbines are set to reinforce the power plant's presence as one of the most efficient gas-fired power plants in



Siemens Energy AG
Communications
Head: Robin Zimmermann
Otto-Hahn-Ring 6
81739 Munich
Germany

PacificLight Power Pte Ltd
Regulations & Corporate Communications
Clare Saveroux
8 Jurong Town Hall Road
#12-01/06, The JTC Summit
Singapore 609434

Asia. The improved efficiency and reduction in carbon emission from ATEP equates to 18,100 tonnes of CO₂ equivalent per year.

Additionally, this ATEP agreement comes at the heel of the long-term service agreement's extended scope that prolongs the operational span of the power plant with upgrades to generate increased revenue for the customer. It will also be another step towards the decarbonization of the future in support of Singapore's goal for a more sustainable and reliable energy system. At the same time, PacificLight Power has received a Genco Energy Efficiency Grant from the Energy Market Authority of Singapore to co-fund this power generation energy efficiency project as part of Singapore's transition towards a low-carbon future.

"PacificLight is committed to continual improvement to raise its plant efficiency and reduce its carbon footprint through innovation. The adoption of ATEP is the first of its kind in this region and will reinforce PacificLight's position as one of the most efficient gas-fired power plants in Asia. The ATEP, together with the comprehensive suite of energy efficiency improvements that we have implemented since commencing operations, will reduce our annual carbon emissions by over 40,000 tonnes per annum, equivalent to supplying carbon-free electricity to over 20,000 Singapore households," said PacificLight Power Pte Ltd CEO Yu Tat Ming.

Siemens Energy Asia Pacific Hub Managing Director Brian Byrne congratulates the excellent collaboration between the cross-divisional teams in creating a win-win situation for the customer. "We are delighted to be partnering PacificLight Power for this project to fulfil their plan in envisioning this plant to be the most efficient, and most dispatched (power plant) in Singapore. In extending the plant's long-term service agreement by one cycle as well as modernizing and upgrading the scope of supply and works, we are committed to support our customer in this journey of contributing towards Singapore's overall carbon abatement and making decarbonization a reality."

Featuring four stages of ATEP's turbine blades and vanes, the upgrade of PacificLight's two units is expected to be completed in 2023 and 2024.



Siemens Energy AG
Communications
Head: Robin Zimmermann
Otto-Hahn-Ring 6
81739 Munich
Germany

PacificLight Power Pte Ltd
Regulations & Corporate Communications
Clare Savereux
8 Jurong Town Hall Road
#12-01/06, The JTC Summit
Singapore 609434

Joint press release



Siemens Energy AG
Communications
Head: Robin Zimmermann
Otto-Hahn-Ring 6
81739 Munich
Germany

PacificLight Power Pte Ltd
Regulations & Corporate Communications
Clare Saveroux
8 Jurong Town Hall Road
#12-01/06, The JTC Summit
Singapore 609434

Joint press release



Contacts for journalists

Siemens Energy

Chia Ying Lim

Phone: +6016 333 2768

E-mail: chia-ying.lim@siemens-energy.com

PacificLight Power Pte Ltd

Trisha Lim

Phone: +65 3157 5630

E-mail: pacificlight@finnpartners.com

This press release and press pictures are available at <https://press.siemens-energy.com/global/en/pressrelease/accelerating-singapores-carbon-lite-future-regions-first-advanced-turbine-efficiency>

www.pacificlight.com.sg/about-us/key-milestones

For further information on Division Service and Digital, please see <https://www.siemens-energy.com/global/en/offerings/services.html>

Follow us on Twitter at: www.twitter.com/siemens_energy



Siemens Energy AG
Communications
Head: Robin Zimmermann
Otto-Hahn-Ring 6
81739 Munich
Germany

PacificLight Power Pte Ltd
Regulations & Corporate Communications
Clare Saveroux
8 Jurong Town Hall Road
#12-01/06, The JTC Summit
Singapore 609434

Joint press release



Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers. More than 50 percent of the portfolio has already been decarbonized. A majority stake in the listed company Siemens Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs more than 90,000 people worldwide in more than 90 countries and generated revenue of around €27.5 billion in fiscal year 2020. www.siemens-energy.com.

PacificLight Power Pte Ltd is a Singapore-based power generation and electricity retail company. The company's Jurong Island Power Generation Facility is one of the most efficient combined cycle power plants operating in Singapore, enabling it to compete effectively in Singapore's liberalised local electricity market. The 800MW plant comprises two blocks of Combined Cycle Gas Turbine ("CCGT") generating units and represents an investment of S\$1.2 billion. PacificLight Power Pte Ltd is owned 70:30 by FPM Power Holdings Ltd and PETRONAS Power Sdn Bhd.



Siemens Energy AG
Communications
Head: Robin Zimmermann
Otto-Hahn-Ring 6
81739 Munich
Germany

PacificLight Power Pte Ltd
Regulations & Corporate Communications
Clare Saveroux
8 Jurong Town Hall Road
#12-01/06, The JTC Summit
Singapore 609434