



## GE Vernova, CARBONCO, bp, PLN Nusantara and Jawa 1 to develop CCUS Value Chain feasibility study in Indonesia

- *Carbon capture, utilization, and storage (CCUS) is a crucial pathway to lowering carbon emissions from power generation up to near-zero levels*
- *MoU to leverage GE Vernova's expertise in combined cycle power plant integration with carbon capture plants, CARBONCO's leadership in CCUS technology, bp's global knowledge and expertise in CCUS, and Jawa 1 and PLN Nusantara's installed base in Indonesia*
- *Collaboration to pave the way for Indonesia's energy transition to net zero by 2060*

**Jakarta, Indonesia – Sept 11th, 2023**— GE Vernova's Gas Power (NYSE: GE), Korea's CARBONCO, a company specializing in decarbonization solutions established by DL E&C Co., Ltd (KRX: 375500); BP Berau (bp), the Operator of [Tanggung](#); PT. PLN Nusantara Power (PLN Nusantara), subsidiary of Indonesia's national utility PLN; and PT Jawa Satu Power (Jawa 1), the owner of PLTGU Jawa 1 jointly owned by shareholders Pertamina New and Renewable Energy, Marubeni and Sojitz; today announced the signing of a Memorandum of Understanding (MoU), to jointly carry out a feasibility study to develop a CCUS value chain and joint solutions to decarbonize gas power plants in Indonesia, powered by GE Vernova power technology. BP Berau Ltd (bp) is the operator of [Tanggung](#) and acts on behalf of contractors of Tangguh PSC (namely MI Berau B.V., CNOOC Muturi Limited, Nippon Oil Exploration (Berau) Ltd., KG Berau Petroleum Ltd., Indonesia Natural Gas Resources Muturi, Inc., KG Wiriagar Petroleum Ltd.). The joint project aligns with efforts to bolster Indonesia's energy transition towards a lower-carbon future rapidly and with scale, especially in the power generation sector.

The MoU was signed at the 1st International & Indonesia CCS Forum 2023 which takes place from 11-12 September at Mulia Hotel, Jakarta.

The MoU builds on an [announcement made in October 2022](#), by GE and CARBONCO to jointly explore a roadmap for the integration of CCUS technology with gas-fired power plants in Asia and the Oceania regions, powered by GE Vernova power technology. Both parties have since identified and developed tangible opportunities based on economic viability and project feasibility. Today's MoU with bp, PLN Nusantara Power, and Jawa1 serves as an important milestone in paving the way to accelerate the adoption of CCUS technologies in Asia.

Under the agreement, PLN Nusantara, Jawa 1, CARBONCO, bp and GE Vernova will collaborate to address the entire CCUS value chain, from the implementation of carbon capture technology in gas-fired power plants to the transportation of CO<sub>2</sub> to import and export terminals as well as the sequestration of captured CO<sub>2</sub> at the Tangguh field in Teluk Bintuni, Papua Barat, Indonesia. The study endeavors to achieve a deeper understanding of the development of a CCUS value chain for Indonesia as the hub for the region.

GE Vernova will build on its recognized experience in advanced technology and controls to integrate combined cycle power plants with CARBONCO's CCUS technology. With proven expertise in gas



combined cycle plant engineering, operability, and plant integration with carbon capture plants, GE Vernova will lead integration with the goal of ensuring dispatchability, lower carbon intensity, high flexibility and reliability, and lower capital cost.

CARBONCO will deploy its technological capabilities and experience in CCUS that is backed by more than 20 years of experience executing a variety of global decarbonization projects. In addition, CARBONCO has successfully completed FEED (Front-End Engineering Design) and detailed engineering designs for the carbon capture of 3,000 tons per day scale. CARBONCO will capitalize on its strengths in standardization and modularization towards the joint study to help ensure quality standards and de-risk uncertainties.

“GE Vernova continues to play a crucial role in supporting the advancement of the region’s energy goals, working alongside global and local players such as CARBONCO, bp, PLN Nusantara and Jawa 1.” said Ramesh Singaram, Asia President & CEO of GE Vernova’s Gas Power business. “We are especially focused on further developing crucial breakthrough energy technologies such as carbon capture, and are pleased that this collaboration will pave the way for a robust value chain that will help address carbon emissions reduction in the power sector and support climate change commitments in Indonesia.”

Dr. Sang Min Lee, CEO of CARBONCO states that “The top priority of CARBONCO’s business agenda is to alleviate climate change in the world. Being a global player, CARBONCO is working tirelessly to transition the region’s power industry towards cleaner energy more efficiently and effectively. Working alongside global and local players such as GE Vernova, bp, PLN Nusantara and Jawa1 is vital to ensure our business is on the right track. We are confident that today’s agreement will further accelerate our big movement, and CARBONCO and GE will continue to assess the global marketplace for tangible projects with the right integration model.”

The Tangguh CCUS project carried out by bp is the most advanced CCUS project in Indonesia with a development plan that has received approval from the Government of Indonesia in 2021, for ongoing FEED work and planned project sanction in the near future. Holding ca 1.8 GtCO<sub>2</sub> in ultimate storage capacity, Tangguh is well-positioned and has tremendous potential to become the country’s first CCS hub for domestic and international emitters. For the initial phase at Tangguh, bp plans to inject 30+ million tons of CO<sub>2</sub> back into the reservoir to help recover additional gas production through Enhanced Gas Recovery (EGR). This will be the first large scale CCUS project with EGR in the world.

Kathy Wu, BP Regional President Asia Pacific, Gas & Low Carbon Energy, commented: “As an energy company who has been a long time strategic partner for Indonesia and being the most advanced CCUS hub project in the country, we aim to play an active role in supporting Indonesia to achieve its Net Zero target. Together with PLN Nusantara, Jawa 1, GE and CARBONCO, we will pave the way for the decarbonization of Indonesia’s power plants with potential CO<sub>2</sub> injection in Tangguh.”

As a leading multinational energy company which has been operating for more than five decades in Indonesia, bp brings global knowledge and expertise, technology and the financial capability necessary to advance CCUS/CCS initiatives in the country.



In a move to be a leader in the global energy transition, GE Vernova will spin-off in 2024 into an independent company that will focus on accelerating the path to more reliable, affordable, and sustainable energy. In Indonesia, GE has been present for over 70 years with approximately 500 or more employees across three locations, contributing up to 30 percent of the country's power needs.

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## **About GE Vernova**

GE Vernova is a planned purpose-built global energy company comprising of Power, Wind, and Electrification segments and supported by its accelerator businesses of Advanced Research, Consulting Services, and Financial Services. Building on over 130 years of experience tackling the world's challenges, GE Vernova is uniquely positioned to help lead the energy transition by continuing to electrify the world while simultaneously working to decarbonize it. GE Vernova helps customers power economies and deliver electricity that is vital to health, safety, security, and improved quality of life. GE Vernova is headquartered in Cambridge, Massachusetts, U.S. with 70,000 employees across 140+ countries around the world.

GE Vernova's mission is embedded in its name – it retains its legacy, “GE,” as an enduring and hard-earned badge of quality and ingenuity. “Ver” / “verde” signal Earth's verdant and lush ecosystems. “Nova,” from the Latin “novus,” nods to a new, innovative era of lower carbon energy. Supported by the Company Purpose, The Energy to Change the World, GE Vernova will help deliver a more affordable, reliable, sustainable energy future with security. Learn more: [GE Vernova](#) and [LinkedIn](#).

## **About GE Vernova's Gas Power business**

GE Vernova's Gas Power business is one of the world leaders in natural gas power technology, services, and solutions. Through relentless innovation and continuous cooperation with our customers, we are providing more advanced, cleaner and efficient power that people depend on today and building the energy technologies of the future. With the world's largest installed base of gas turbines and more than 670 million operating hours across GE Vernova's installed fleet, we offer advanced technology and a level of experience that's unmatched in the industry to build, operate, and maintain leading gas power plants.

## **About CARBONCO**

CARBONCO is a spin-off company from its mother company DL E&C, which is a major affiliate of DL Group. Continuing its 83 years legacy, DL Group has always been one step forward on decarbonization business such as CCUS and Clean Energy. As a technology provider, CARBONCO has specialized in carbon capture with its commercially proven technology over decades. By diversifying its decarbonization business portfolio from FEED/EPC work to consulting services and business development, CARBONCO takes a significant role in every aspects of CCUS and clean hydrogen/ammonia business. Furthermore, as a project developer, CARBONCO puts direct investment to acquire a major/minor stakes of equity in various global projects. To learn more about CARBONCO, please visit: [www.carbonco.com/eng/main](http://www.carbonco.com/eng/main)



GE VERNOVA

### **About BP Indonesia**

bp has been a strategic partner for Indonesia for more than 55 years. All bp businesses have a footprint here, with Tangguh LNG as the largest gas producer in the country, Castrol in lubricants, trading, while growing the latest entry in retail and aviation fuel, with total investment of \$15 billion to date. In Papua Barat, bp's presence comprises Tangguh LNG and offshore wells. Tangguh is the highest-producing gas field in Indonesia, contributing ~20% of national gas production, recording a total investment of ~US\$10 billion, and safely delivering >1,500 cargoes. By the time Train 3 is operational, Tangguh's three-train business would contribute about 35% of national production.

For more information, contact:

Zatalini Zulkipli

Regional Communications Leader, Gas Power

GE Vernova

[zatalini.zulkipli@ge.com](mailto:zatalini.zulkipli@ge.com)

Laura Aresi

Public Relations Leader, Gas Power

GE Vernova

[laura.aresi@ge.com](mailto:laura.aresi@ge.com)

Lee, Sang ho

Sales & Marketing, Senior Manager

CARBONCO Pte. Ltd.

[sh@carbonco.com](mailto:sh@carbonco.com)

David Cho

Digital Communication, Senior Manager

DL E&C Co., Ltd

[david.cho@dlenc.co.kr](mailto:david.cho@dlenc.co.kr)

Dadan Wijaksana

Communications Manager

BP Indonesia

[dadan.wijaksana@se1.bp.com](mailto:dadan.wijaksana@se1.bp.com)

<https://www.gevernova.com/>

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