Gas to Power Journal
Peakload Power and Energy Storage

Focus on Carbon Trading & Electrification & Hydrogen

Weekly News 10 December 2021

Global Carbon Markets could skyrocket to reach US$200 billion by 2050

Inclusion of international carbon trading in Article 6 of the Paris Rulebook at COP26 could see the market's value surge from US1 billion in 2021 to nearly US$200 billion in 2050. "The elimination of double-counting makes decarbonization real," Wood Mackenzie's research director Elena Belleti said, suggesting this will attract financing for "real emission reduction."

However, the carry-over of 300 million tons of legacy Kyoto credits will likely undermine market transparency in the short run, keeping carbon prices volatile. But come 2030, the demand for high-quality carbon credits is expected to drive up prices more than tenfold, Belleti forecasts, which would attract investors.

Financial Alliance for Net Zero

Stakeholders responsible for assets worth over US$130 trillion joined the Glasgow Financial Alliance for Net Zero at COP26. Members and their portfolio companies must set science-based near-term and 2050 decarbonisation targets, both for the near term and for 2050. They must also release supporting plans and report progress annually.

Another novelty was the creation of an International Sustainability Standards Board. The new institution will set out globally consistent climate disclosure standards for corporates to help investors compare their sustainability performance and related risks. "More consistent dis-closure will aid deeper scrutiny, which is likely to add to pressure on oil and gas companies," Wood Mac's vice president Luke Parker commented.

Gas: headroom for reliance

In contrast to thermal coal, whose days are being counted, natural gas is increasingly emerging as a vital backup for the growing number of intermittent wind and solar power generation capacity. Germany's incoming coalition government, for instance, is aiming to accelerate the date of its legally binding coal exit from 2038 to 2030. Most international banks have ended financing of unabated coal power projects globally, causing a serious shift in the power generation mix in China, India and other fast-growing economies.

As the world phases down the use of coal, the power sector's dependence on natural gas grows at least for the next decade. Utilities hence focus on reliable gas supply, Wood Mac's vice president Chris Seiple said but stressed: "A global carbon market will reinforce how carbon pricing influences power prices and investment decisions."

continued on page 2

New German transport minister pressed for time on clean mobility shift

Germany's new transport minister Volker Wissing (FDP) is hard pressed for time to enact "enormous changes" necessary to curb transports emission 40% by the end of 2030 – a vital step for the country to become climate-neutral by 2045. Support for electric cars and speed limits are under debate.

Today, Germany is the only industrialised country in the world without a general speed limits on motorways, not least due to car industry's large contribution to the economy. Large parts of the industry have been slow to invest in future technologies – notably hydrogen-fuelled cars and electric vehicles.

One of Deutsche Bahn's Flinkster electric vehicles being recharged

Trying to replicate the success of Tesla, German carmakers VW, Audi, Porsche, Mercedes-Benz and BMW have ben rushing to roll out strategies of building electric and hybrid cars. Their efforts come against the background of growing fears there may be massive job losses in Germany's car-making industry and related sectors.

Sales of e-cars surge as CO2 prices rise

The sale of electric vehicles in Germany have jumped 49%, with over 97,000 electric cars sold in the months up to December 2020 alone, and kept on high levels throughout 2021. Consumers increasingly embrace e-cars – not least as a means

continued on page 2

AGENDA

Continued from page 1, top story

The future role of natural gas has not been defined at COP26, but most analysts believe the fossil fuel will eventually be subject to closer climate scrutiny. To pre-empt this, the industry is already working on co-firing natural gas-fuelled turbines with hydrogen. This big issue is whether to use blue hydrogen (derived from natural gas stream reforming) or green hydrogen (produced via electrolysis using renewable energy only).

"COP26 was positive for the gas industry, despite the lack of a clear statement on its role in the energy transition. To hit 1.5° C, gas use will inevitably need to reduce over time. However, the global methane pact facilitates direct Scope 1 and 2 emissions reductions. According to Wood Mac's vice president Massimo Di-Odoardo, "that would give gas a role as a transition fuel. Meanwhile, the 'phasing down' of coal could encourage increased gas use in developing Asian markets."

All eyes on hydrogen

At the same time, global carbon markets could incentivise the scale up of carbon capture and storage (CCS), as well as blue hydrogen. In particular, the announcement of the 'H2Zero' initiative is seen as positive step for hydrogen at COP26.

"Twenty-eight companies from sectors including refining, fertilisers, and mining pledged to support the supply and demand of low-carbon hydrogen. That's a step in the right direction, but only represents about 4% of the current overall hydrogen project pipeline," commented WoodMac's senior analyst Flor Lucia De la Cruz. "To achieve a 1.5° C scenario, supply-side pledges will need to grow 20-fold. At the same time, demand-side pledges would need to increase from 1.6 million tonnes per year to 500 million tonnes." ■

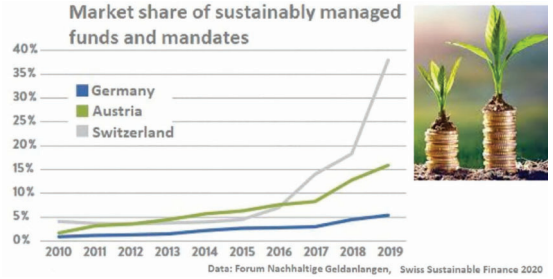
German sustainable ETFs – just greenwashing of conventional funds?

Most of the money put into so-called sustainable exchange-traded funds (ETFs) in Germany is not invested in projects that differ significantly from conventional investment funds. "The big promise of many green funds to do good for other people and the environment often does not amount to more than greenwashing," said Magdalen Senn of the NGO 'Finanzwende'.Most of the money put into so-called sustainable exchange-traded funds (ETFs) in Germany is not invested in projects that differ significantly from conventional investment funds. "The big promise of many green funds to do good for other people and the environment often does not amount to more than greenwashing," said Magdalen Senn of the NGO 'Finanzwende'.

In a sustainability fund managed by the investment branch of public banking group Sparkassen, Deka Investment, the top 10 positions did not differ from its conventional counterpart in May 2021 , the NGO found. "Only a strict European standard that sets a common definition for sustainability in investments could remedy the situation," Senn suggested.

Sustainable ETFs don't shun fossil energy

The volume of capital put into exchange traded funds (ETFs) and public funds labelled as sustainable has doubled over the past two years, which led the NGO to look into more than 300 funds with a combined volume of 100 billion euros currently offered in Germany. The funds habitually do not exclude "particularly problematic companies," nor do they shun damaging or controversial sectors.



Up to 70% of energy investments in these funds are put into fossil energy projects, including 100 million euros invested in coal power. However, the NGO Finanzwende stressed that truly sustainable funds do exist and that investors can make sure their money is going into environmentally and socially acceptable projects, even if many offers do not merit the label.

Germany launched a sustainable finance strategy in 2020. Many banks and financial market actors in Germany had pledged to gradually green their investment portfolios and promote more sustainable projects, however these green projects still account for only a fraction of all investments in the country. ■

Continued from page 1

to shield against Berlin's latest hike of the entry-level price for CO2 emissions in the transport sector, which has just been raised to €25 per tonne from 2021.

One million registered battery electric and plug-in hybrid vehicles are driving on German roads as of August, though the government reached its 2020 goal half a year later than planned. About 54% of the registered electric vehicles are battery-electric, 46% plug-in hybrids and the economic minister Peter Altmaier announced the transport sector would be "irreversibly converted to renewable energies.

Alternative drive systems on the rise

To date, the number of new registrations of vehicles with alternative engines has risen by 65.2 percent, according to a recent report by the German Energy Agency (dena). "The continuing rise in interest in alternative drive systems is positive," said dena chairman, Andreas Kuhlmann. "However, this trend is counteracted by the continued strong sales of new cars with high fuel consumption," he said, so "politicians must take counter-measures here."

According to the Center of Automotive Management's (CAM) electro-mobility report, Germany remains the third-largest e-vehicle market this year, with market share increasing from 1.9% in 2018 to nearly 2.9% in 2019. "Germany is playing a 'driving role' in the growth of electric mobility," the report states. Over the past few years, however, Europe's largest economy has struggled to cut CO2 emissions in the mobility sector. The sector emitted over 160 million tonnes of CO2 in 2018. Policy makers have made plans for figure to sink below 100 million tonnes by 2030. ■

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Carbon Gap calls on gov's to help scale up carbon removal technologies

Oxford-based NGO Carbon Gap has urged governments in Europe and the UK to support the scale-up of technologies that can remove CO2 directly from the air. Researchers highlight the strong need to invest in R&D for carbon removal, provide deployment incentives and develop standards and clear target to incentivise utilities to start delivering net-negative emissions.

To keep global warming below 1.5°C, billions of tons of CO2 would need to be removed from the atmosphere cumulatively before 2050, and on an ongoing basis after 2050. Recent analysis from the Energy Transition Commission shows the need for 220 billion tons of cumulative CO2 removed from the atmosphere and stored by 2050 – the equivalent to five to six years of today's emissions.

Carbon sequestration vs Direct Air Capture

Carbon removal involves taking carbon out of the atmosphere and oceans and storing it safely, for example in vegetation, soils, rocks, deep sea sediments, and even in the built environment. Techniques range from soil carbon sequestration and tree planting to engineered Direct Air Capture or the long-term storage of biogenic carbon such as agricultural waste.

Technically speaking, carbon removal is distinct from carbon capture and storage (CCS) technologies, which can help to reduce emissions but may involve the continued extraction and use of fossil fuels –unlike carbon removal.

"By using a variety of carbon removal approaches, we can reduce the amount of planet-warming carbon in the atmosphere earlier and faster, turning back the clock on climate change and supporting good jobs and local communities in the process," explained Carbon Gap spokesperson Eli Mitchell-Larson.

"We have eight years to halve emissions, and 28 years to continue dramatic emission cuts while also rapidly scaling up the removal of carbon from the atmosphere in order to achieve net-zero, stay within our carbon budget, and keep peak warming below 1.5 degrees," he said, stressing: "We need to act now to ensure that we have time to research, develop, and deploy new and existing carbon removal techniques, at scale, safely, affordably, and sustainably. If we wait until 2030, it will be too late."

Focus on carbon removal at COP27

As the recognition of carbon removal's role in achieving climate targets keeps rising, more and more policy makers as well as industry players are ready to act.

Analyst at Carbon Gap hence believes carbon removal will move from the periphery of the climate debate to join emissions reductions as another major pillar in achieving our climate goals. It expects to see a focus on carbon removal at COP27 in Egypt in 2022.

Carbon Gap is funded by large climate philanthropies, including the Quadrature Climate and Grantham foundations, and does not take money from any corporations to ensure independence and objectivity. ■

NEWS NUDGES

Ms Mulliez new chair of Siemens Energy's audit committee

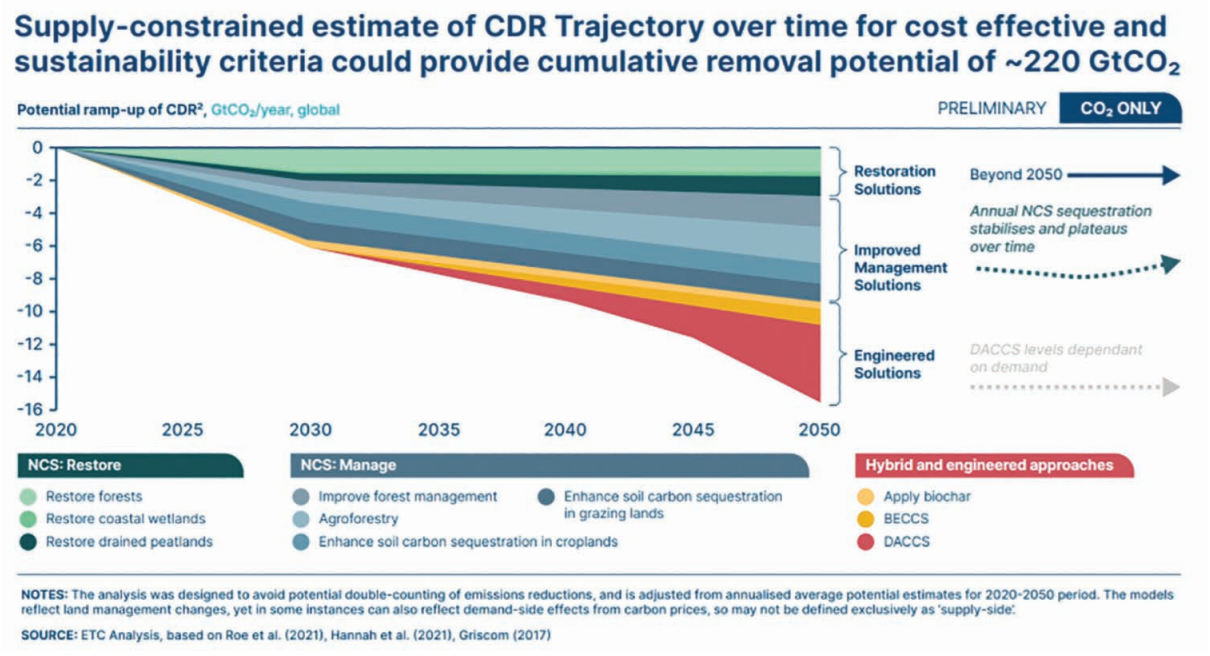
Laurence Mulliez (55) has been appointed as new Chairwoman of the audit committee at Siemens Energy. Consisting of eight members, the audit committee is part of the company's supervisory board and tasked with monitoring the accounting process, the internal control system, and audit of the company's financial statements.

Gazprom supports NGV market

Gazprom chairman Viktor Zubkov has underlined the company's commitment to help accelerate the development of the natural gas fuel vehicle (NGV) market in Russia. To that end, Gazprom has set up a network of NGV refuelling stations which has reached 348 units as of December 2020. The volume of natural gas sold as vehicle fuel grew more than twofold during that period, reaching 842 million cubic meters.

INEOS digitalises Grangemonth terminal

INEOS Forties Pipeline System (FPS) has announced plans to digitalise operations at Kinneil Terminal in Grangemouth. The AI-driven optimisations software will help lower emissions and streamline operations of the oil and gas receiving terminal in Scottish waters. The decision follows INEOS' commitment to curb emissions from its operation at Grangemouth by more than 60% by 2030 as it targets Net Zero by 2045. ■



Australia's NSW state allows to feed hydrogen-blends in gas pipelines

Legislation has been passed in the Australian state of New South Wales (NSW) that allows to feed blends of hydrogen and biomethane into the natural gas pipeline network. The aim is to have a 10% hydrogen blend in the gas grid by 2030, and export substantial amounts of green hydrogen to power producers in Japan and wider Asia.

The adoption of the 'Energy Legislation Amendment Bill 2021' comes after the Australian gas TSO Jemena started to blend green hydrogen into its gas network in western Sydney in early November. Jemena's hydrogen blending operations will serve over 100 commercial and industrial customers and up to 23,500 households.

Striving to become big green hydrogen player

Going forward, NSW is gearing up to becoming a significant producer of hydrogen – both for domestic use and exports. This plan is underpinned by a A$3 billion (US$2.2 bn) state-funded investment plan for the expansion of renewable energy to produce hydrogen rather than for the alternative, fossil-based alternatives of producing hydrogen from coal or natural gas.

Green hydrogen, produced through electrolysis using only renewable energy sources, is often more expensive to produce than grey hydrogen made from natural gas steam reforming. However, New South Wales has beneficial climate conditions for producing renewable energy for cheap – analyst hence view Australia as one of the prime spots of producing cost-competitive green hydrogen.

Oil majors eye exporting green fuels from NSW to Japan

International oil majors (IOCs) are busy working to set up a supply chains to ship the green fuel from Down Under to Japan. The Australian oil and gas major Woodside, for instance, is striving to diversify its business and seeks to identify opportunities related to large-scale ammonia production lines. Together with the Japanese partners Marubeni and other, Woodside will study the feasibility of producing clean ammonia in Australia with natural gas with CO2 abatement methods such as Carbon Capture Storage (CCS) and bio-sequestration.

In Japan, Marubeni has already conducted trial runs on ammonia co-firing, making use of stored hydrogen at low cost. A recent technical study, running through to the end for February 2021, entailed a series of trials for direct usage of ammonia as a fuel in JERA's thermal power plants.

Marubeni and IHI Corp's have also been looking into ammonia as well as hydrogen-cofiring – in line with the Japanese government's aspirations to turn the country into a hydrogen-based economy.

A hydrogen-based energy project, named NEDO, seeks to develop multi-burner ammonia and hydrogen co-firing technology for pulverized coal boilers, which can later be amended for use in gas-fired power units.

JERA is ready to invest into retrofitting its existing plants with the novel co-firing technology, once it is ready for commercialization. To this end, it already allows researchers to carry out tests and trial runs at some of its thermal power plants. ■

Bloom and Electricity North West bring hydrogen-ready power to the UK

Hydrogen-read solid oxide fuel cells (SOFCs) are being introduced to the British wholesale power market by Bloom Energy, Conrad Energy and Electricity North West. The trio agreed to jointly develop, build and operate behind-the-meter projects to bring Bloom's SOFC platform to UK with first orders hoped to materialise in December 2021.

Bloom's non-combustion Energy Servers combine ambient air and biogas, hydrogen, or natural gas to create electricity through an electro-chemical process. When hydrogen or biogas are used as the fuel source, the SOFC server deliver on-site, 24/7, zero-carbon electricity.

Conrad Energy to finance the roll-out

Project finance for the SOFC server rollout in Britain will be led by Conrad Energy, an Independent Power Producer (IPP), headquartered in Abington near Oxford, a strong focus on behind the meter (BtM) energy efficiency and renewable energy solutions. Meanwhile, the private power grid provider Electricity North West, will manage the installations and offer the BtM solution to its over 1,000 commercial and industrial customers.

Venturing into green energy, Conrad also signed a 104 MWh battery energy storage order with GE Renewable Energy in September to design, manufacture and supply GE's battery-based energy storage systems in the UK. The equipment will be deployed on several sites from Blackpool to Basingstoke with deliveries scheduled to start in mid-2022.

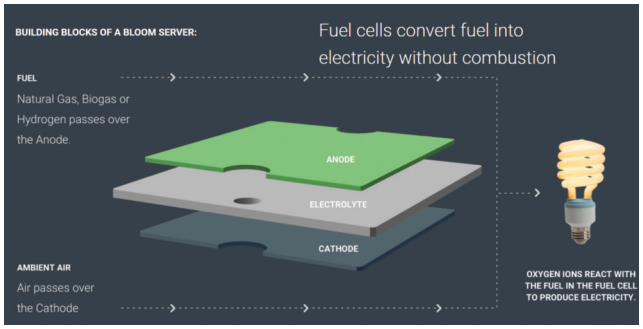
Inverter-based power offered under PPA model

Customers using Bloom's Energy Servers can configure their microgrids to ensure continuous operation of mission-critical loads through inverter-based power. The technology will be offered to industrial customers under a PPA [Power Purchase Agreement] structure which removes upfront capital costs while keeping the running cost predictable over the term of the contract.

Chris Shears, development director, Conrad Energy called the collaboration "very exiting" as the company strive to grow into new technologies. "We believe the resilient power provided by fuel cells will have a vital role to play in reducing emissions and energy costs," he said.

Jim Hallas, customer solutions director, ENWCML agreed: "We want to be a UK leader in the race to reduce carbon emissions and help our customers achieve energy cost security, whilst preparing for the hydrogen economy. This technology offering manages to do all three in one go," he noted.

The rollout of Bloom's hydrogen-ready fuel cells and Energy Servers can help the UK meet its 2050 net-zero carbon goals. Targeting northwest England first, the company strive to "help the region's pursuit of making clean, reliable and affordable energy solutions a reality," explained Bloom Energy's business development manager, Tim Schweikert. ■



SOFCs convert fuel into electricity without combustion

GenCell launches backup power unit with longer runtime

GenCell Energy, an Israeli maker of alkaline-based hydrogen fuel cells, has launched a backup power unit with extended runtime. Named GenCell REX, it helps European TSOs meet obligations of maintaining enough redundancy to guarantee 24 hours emergency power capacity.

The GenCell REX, an upgrade to the GenCell G5rx, produces emission-free auxiliary electricity for substations during outages that supplements or replaces legacy backup battery systems having limited duration backup power.

To test and improve the system, GenCell is currently working with utilities companies including San Diego Gas & Electric, and Douglas PUD, a public co-operative utility serving Douglas County, Washington.

REX keeps circuit breakers operational

By offering an immediate injection of power that keeps circuit breaker "auto re-closers" operational until grid recovery. The REX hence complies with today's more stringent regulations requiring that utilities reinforce their backup power in response to the higher risks of power outages caused by increasingly frequent and severe climate-related weather events impacting Europe, as well as parts of the US.

EU Commission regulations for the network code on electricity emergency and restoration obligate TSOs and service providers to maintain sufficient equipment redundancy and backup power supply sources for their communication systems to have a minimum backup power capacity of higher than 24 hours.

"Commission Regulation (EU) 2017/2196 stipulates that each TSO shall arrange a backup power supply for its backup control room of at least 24 hours in case of loss of primary power supply," said GenCell Energy CEO Rami Reshet. In his view, hydrogen fuel cells are "the ideal means" to provide utilities with reliable long-duration backup power. ■

PERFORMANCE

Rated power configurations	5kW
Output voltage configurations	-48 VDC / +48 VDC / 230 VAC / 130 VDC
Emissions	Usable heat, water vapor

FUEL

Hydrogen	99.95% or higher
Fuel consumption	70 g/kWh

1. 5kW fuel cell generator
2. Heat utilization unit for dissipating excess heat
3. Energy bridge for instant electrical power generation and regulating power output
4. Fuel supply comprised of standard hydrogen cylinders
5. Shelter enclosure to protect all system components (#1-4)

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GE 9HA turbines ordered for hydrogen-blended gas power plant in China

Guangdong Energy Group has ordered two 9HA.01 turbines – manufactured by the GE Harbin Electric joint venture in China – for the Guangdong Huizhou combined-cycle plant. Designed run on 10% hydrogen blended with natural gas, the CCGT will deliver 1.34 GW electricity to the Greater Bay Area and process steam for Huizhou chemical complex, starting from 2023.

The Chinese government is committed to implement policies to reduce coal's share to under 58% of the energy mix. Hydrogen-blended natural gas generators have the lowest CO2 emissions of all fossil power generation fuels: 10% hydrogen-blended combined cycle gas power plant has roughly 40% of the CO2 emissions of a similarly sized coal plant, and lower emissions levels for other pollutants such as mercury, NOx, SOx and particulate matter.

"We see hydrogen-blended natural gas serving as a catalyst accelerating the world's efforts towards decarbonizing the power generation sector," said Ma Jun, utility sales general manager of GE Gas Power China. The units installed at the Guangdong Huizhou CCGT will "initially operate on a blend of up to 10% hydrogen by volume," he said, indicating there is "potential for an increase in future."

Today, GE's H-Class gas turbines can burn up to 50% by volume of hydrogen blended with natural gas – largely thanks to its DLN2.6e combustion system. Looking ahead, GE has a technology roadmap to achieve 100% hydrogen for its 9HA.01/9HA.02/7HA.03 gas turbines offerings.

Use of 1st HA turbine built in China

The project in Guangdong province marks the first localized 9HA.01 built by General Harbin Electric Gas Turbine joint venture mainland China. The JV, set up in 2019, focusses on heavy duty gas turbine localization and support, as well as and hydrogen-blended gas power plants. For the Guangdong project, Harbin Electric will provide steam turbine, generator and balance-of-plant equipment.

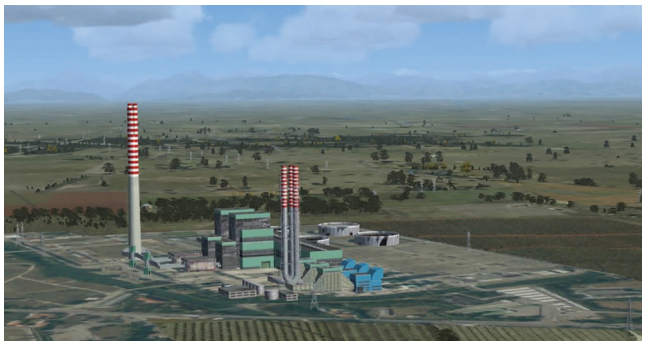
In mainland China, GE serves over 100 customers with an installed power capacity of 46 GW. The American manufacturer, together with Harbin Electric, has been a supplier for Guangdong Energy Group for many years. GEG selected two 9F gas turbines for Xinhui power plant as well as three 9HA.02 gas turbines and Harbin Electric's stream turbine, generator and other auxiliary equipment for the Dongguan Ningzhou CCGT, also situated in the Greater Bay Area. ■

Guangdong Huizhou CCGT will feature GE's first HA-class turbine built in China

Ansaldo starts construction works on 800 MW CCGT in Italy

Ansaldo Energia has begun construction works on a project aimed at improving the efficiency of the EP Produzione combined-cycle gas turbine (CCGT) in Tavazzano and Montanaso, in Italy's Lodi province. The new 800 MW CCGT unit is scheduled to start up on November 1, 2023.

As EPC contractor, Ansaldo Energia is in charge of all construction works for the unit – from the foundations to the start-up, as well as for delivery and installation of a GT36 H-Class gas turbine, two generators and a steam turbine. The agreement also includes a multi-year contract for the maintenance of the turbine.



Render of the new Tavazzano CCGT unit

The technology behind the GT36, the most powerful ever made in Italy, will ensure to the plant greater flexibility and faster commissioning – essential to balance the grid in the face of a growing contribution of renewable energy sources.

"We are very proud that EP Produzione has chosen Ansaldo Energia for the upgrade and the efficiency of its Tavazzano and Montanaso plant," said Giuseppe Marino, CEO of Ansaldo Energia.

Addition of the new 800 MW unit will increase the installed capacity of the existing 1,140 MW Tavazzano and Montanaso power plant to over 1,900 MW. Previously running on both fuel oil and natural gas, the plant was converted in the early 2000s into a 2-unit gas combined-cycle plant. Another 320 MW unit (that would use only natural gas), has been mothballed since April 2013.

Works progress safely and on time

Claudio Nucci, Chief Operating Officer (COO) said Ansaldo Energia took the first steps of this collaboration with the plant operator in the difficult time of the pandemic, but managed to start the work on time, meaning all is "ready to support EP Produzione and work in full compliance with the agreed deadlines".

"In the most hard-working moments, between 600 and 700 employees will work on the site," he said, underlining Ansaldo engineers "paid a particular attention to safety in the workplace" though a dedicated safety campaign. ■

MAN wins award for newly commissioned Phnom Penh power plant

MAN Energy Solutions has won an award for its recently commissioned 200 MW dual-fuel power plant in Phnom Penh. Together with China National Heavy Machinery Corp, MAN built the plant on behalf of Electricité du Cambodge (EDG) which dispatches it for peak shaving and backup power.

Cambodia has been suffering extended periods of draught. In the dry seasons of recent years, the country's TSO was struggling to maintain grid stability given that hydropower plants could not operate at full capacity. The Cambodian government hence launched an emergency programme in 2019 to stabilise the system by adding flexible generation capacity.

The 200 MW engine-driven power plant, installed near the capital Phnom Penh is one of these emergency power units. Driven 11 × MAN 18V51/60DF dual-fuel engines, the plant can be ramped up fast if and when required. It has been commissioned and handed over to EDG in April 2021.

CHMC was responsible for the engineering, procurement, and construction (EPC) of the plant, while MAN Energy Solutions took care of the supply and commissioning of the eleven engines and related plant auxiliaries.

Tight timeframe

"A lot of work went into putting the concept for this power plant together and within such a tight timeframe," Thomas Forst – Head of Project Management, Segment Power said when receiving the award at the annual Experience POWER Conference, held recently in San Antonio, Texas.

Engineers managed to deliver and successfully commission all 11 engines in less than 20 months. "Ultimately, the MAN project team succeeded despite the numerous constraints posed by the Covid-19 pandemic," Forst said.

Seamless fuel switch

Initially, the 200 MW plant will run on heavy fuel oil with the possibility to switch to lower-emission natural gas in the future.

The dual-fuel engines are also capable of switching seamlessly from one fuel type to another during operation, helping to minimize fuel costs. ■

EDC's new plant consist of 11 MAN 18V51/60DF engines

ACWA Power cooperates with Natixis Bank to finance new projects

Saudi Arabia's ACWA Power, a leading developer, investor and operator of power and water assets, has signed a cooperation agreement with Natixis Corporate & Investment Banking to advance regional clean energy and hydrogen projects. Natixis CIB's objective is to finance approximately US$2 billion over two years of ACWA Power's future project pipeline.

The agreement was signed today in the Saudi Arabian city of Jeddah by Clive Turton, Chief Investment Officer of ACWA Power, and Anne-Christine Champion, Co-Head of Natixis CIB. The investment bank is part of Groupe BPCE, the second largest banking group in France.

Paddy Padmeanathan, CEO of ACWA Power said the MoU demonstrates the signatories' "shared commitment to advancing the renewable energy and decarbonisation ambition in the markets we serve by expanding cost competitive financing solutions through innovative structures and accessing wider pools of liquidity." commented. The MoU is in line with AWAC's aim to reach Net Zero by 2050.

Cooperation dates back to 2015

Anne-Christine Champion, co-head of Natixis CIB underline the cooperation agreement cements the close relationship of trust and cooperation the two partners have forged over the past ten years. "Natixis CIB's area of expertise are highly complementary to those of ACWA Power, and we greatly look forward to continuing to accompany ACWA Power as it leads the way in the development of renewable energy, water desalination and green hydrogen projects throughout the region," she said.

Since 2015, Natixis has underwritten a number of ACWA Power's high-profile projects such as Sakaka solar photovoltaic (SV) Independent Power Project (IPP), the DEWA IV Concentrated Solar Power (CSP)/PV Hybrid IPP, and DEWA V Solar PV IPP. ■

CFE orders two multi-fuel plants (600 MW) from Wärtsilä

Comisión Federal de Electricidad (CFE), Mexico's state-owned electricity utility, has ordered two multi-fuel power plants with a combined output of 600 MW from Wärtsilä. The projects will be delivered on a full EPC-basis and are to be completed in phases during 2022 and 2023.

The order comprises a 400 MW facility, the Mexicali Oriente power plant located in Mexico's Baja California state, and the Parque Industrial plant, a 200 MW generating unit located in Sonora, Mexico. The Mexicali Oriente plant will operate with 24 Wärtsilä 50DF dual-fuel engines, while the Parque Industrial plant will feature 22 Wärtsilä 34DF dual-fuel engines. The engines will operate primarily on gas, but Wärtsilä underlined they have the capability to use liquid fuel as a back-up, if required.

Mexicali Oriente plant to be built near Sempra CCGT

Wärtsilä's engine-driven 200 MW Mexicali Oriente power plant will be built adjacent to Sempra energy's 600 MW combined-cycle gas turbine (CCGT) plant Termoeléctrica de Mexicali (pictured). Built three miles from the US border, it was Mexico's first Independent Power Project (IPP) to be fully owned and operated by a foreign corporation.

During the summer months, CFE will operate the plants continuously to cover the region's high electricity demand where temperatures can reach +50°C. For the remainder of the year, the units will be used to provide grid balancing services. ■

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