



Purpose-built flexibility assets key to Europe's net-zero targets

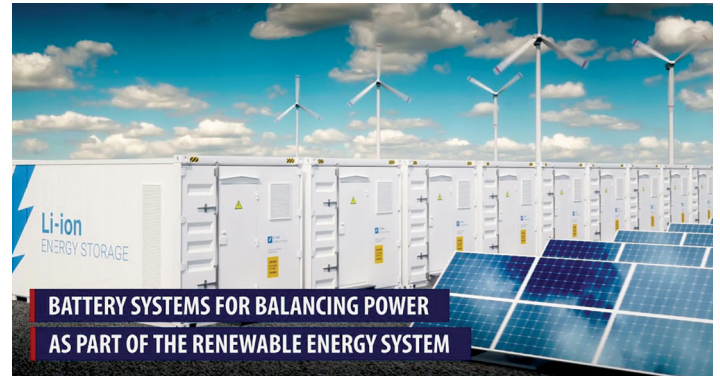
Germany, France, Italy, Spain and the UK could soon largely depend on variable renewable energy (VRE), as an additional 169 GW of wind and 172 GW of solar power is planned to be grid-connected by 2040. Purpose-built flexibility assets, like gas generators and energy storage, are indispensable for this transition.

Though pump storage remains important, new-build flexibility assets will focus largely on interconnectors, gas peakers and energy storage. Combined deployments of the three technologies will grow from 122 GW in 2020 to 202 GW by 2030 and reach 260 GW by 2040, Wood Mackenzie forecast, stressing "without this new fleet, the system would become unmanageable."

"The only dispatchable assets – those that can be used on demand – constructed will be purpose-built flexibility assets. These will be designed to compliment and capitalise on a new system architecture." WoodMac's principal analyst Rory McCarthy stressed. The Edinburgh-based consultancy has used its hourly dispatch model and forecast technology costs to create a new European energy storage outlook.

Energy storage to overtake gas peakers

Gas peaking plants have for long been used to balance intermittent renewable energy supply. They can ramp up to full output from



warm in a couple of minutes for modern systems, have increasing efficiency levels at part loading and boast unlimited duration – assuming a reliable gas supply.

"Yet, by 2030, energy storage will beat gas peakers on cost across all our target markets, resulting in a cloudy outlook for any new future peaking turbines. Fuel and carbon prices are on the up, technology costs are not set for any major decreases and net-zero policies will eventually target the decarbonisation of all power market services," McCarthy noted. "Unabated gas is likely to be the EU's next target after coal, although market forces are already pushing it out."

continued on page 2

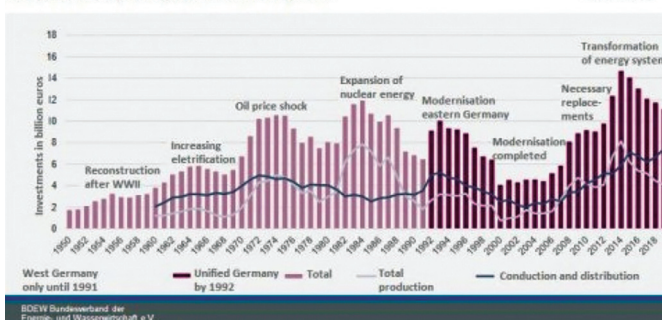
Utilities in Germany slash planned investments in 2020/21

The German energy industry is cutting back on investment planned for this year and 2021. Though policy makers said the industry would become a main pillar of a sustainable recovery, the industry association BDEW forecasts 2020 Capex will be way below the €15.5 billion spent in 2018.

“There is a high degree of uncertainty for the projects currently being planned for the period after 2020 due to the current political and economic conditions,” BDEW head Kerstin Andreae said, forecasting planned investments by power suppliers this year and next are set to fall to levels not seen since 2013.

Key energy policy legislation has been held up in government and parliament for months, undermining planning security for companies and investors in the sector. While the nuclear phase-out by 2022 is regulated, the coal exit act and law amendments for wind and solar power development have yet to be approved.

Investments by German power companies
1950 - 2019 (in real terms)
2015 prices based on producer price index for industrial products



For months, policy makers have been focussed on how to contain the coronavirus while limiting the economic impact of the crisis. But the German Economic Institute (IW) stressed this mean key energy policy measures have to now be delayed.

"Instead, some should even be accelerated,"

continued on page 2

AGENDA

MARKETS

Germany 2038 coal exit timeline 'overtaken by reality' **2**

LNG-TO-POWER

Golar reaches COD acceptance for 1.5GW Sergipe power plant in Brazil **3**

POLICY & REGULATION

Germany to push for 'green recovery' in EU Council Presidency **4**

HYDROGEN

Field trials start on first power-to-X-to-power hydrogen gas turbine **5**

COMPANIES

Shanghai Electric accelerates digitalization with SEunicloud **6**

PROJECTS

Ansaldo commissions gas power project in Tunisia ahead of schedule **7**

Continued from page 1, top story

Although energy storage will dominate the build out during the 2030s as gas peaker capacity plateaus, gas peakers will continue to be critical and will fulfil the role of backup and grid balancing. However, gas units, including large combined-cycle power plants (CCGTs) that cannot find a way to operate profitably with reduced utilisation and increased flexibility, will be forced to close.

New energy storage to near 90 GW by 2040

Storage across all segments will to grow from 3 GW in 2020 to reach 26 GW in 2030, and up to 89 GW by 2040, according to Wood Mackenzie findings.

System durations are set to increase in line with falling battery cost. By 2040, some 320

GWh of energy storage (excluding pump storage) capacity could be available to balance the system on a second-to-second basis.

"For storage and solar-plus-storage, technology costs will continue to decline. The levelised cost for a standalone 3-hour system will reduce by 33% through 2030. Its ability to take advantage of peaks alongside gas plants and capitalise on low and negative prices, which gas plants cannot, pushes it into preferred flexible asset territory," McCarthy explained.

Coal and nuclear lose out, as do some large CCGTs

The rise of renewables will go at the expense of coal generation, which is being phased out in Germany by 2038. Nuclear

power will also lose out throughout Europe, forecast to fall 41 GW in operational capacity by 2040.

Large gas plants are also expected to experience a net reduction of 40 GW over this period as utilisation is pushed down. Energy storage and interconnectors, alongside demand response, meanwhile are expected to become the key tools when dealing with common low and negative net load hours.

"Without these tools at the system operator's disposal, we would have to curtail an eye-watering amount of clean energy," McCarty warned. In his view, "the market needs to provide the right signals for a high-Capex renewables build-out." This could mean paying for flexibility services instead of just paying for the electricity produced. ■

Germany 2038 coal exit timeline 'overtaken by reality'

Sharp decline of coal-burn in Germany, falling to less than 16% of the energy mix in April during the lockdown, shows that the country's plan to exit coal by 2038 has been "overtaken by reality." Environmentalists hence urge the Government to "prepare for a much earlier coal phase-out."

Nearly 90% of Germany's coal plants were not profitable last year, and E3G, an independent climate change think tank, points out that the coronavirus crisis has exacerbated the situation as the share of coal power dropped to a record low of 16% in April.

"If renewables are expanded rapidly, it is likely that Germany can and, for economic reasons, must phase out coal earlier," analysts stressed. Otherwise, the government might lose the chance of orchestrating a regulated coal exit which gives planning security to both power plant operators, employees and regional states.

Germany has officially set in motion a gradual withdrawal from coal, but key parts

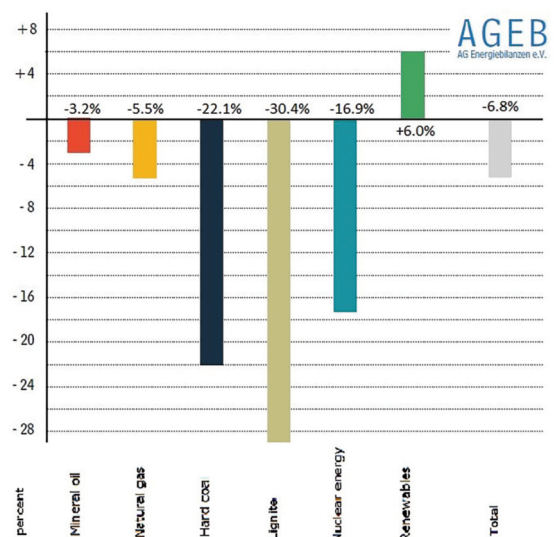
of the necessary legislation are still missing

A slowing economy and mild weather in April and May lowered Germany's energy demand significantly in the first quarter of 2020. Recent data AG Energiebilanzen show renewable energy sources accounted for more than half of the electricity fed into Germany's power grid over the full quarter — the first time this has happened.

Renewables energy supply rose 6% in the first quarter of 2020, compared to Q1-2019, while the contribution of oil fell by -3.2%, natural gas by -5.5% and the share of nuclear power plunged by -17%.

Strong decline of German energy use

Development of Germany's primary energy use in Q1/2020 - changes in percent
Total: 3,457PJ



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Continued from page 1

said IW's Thilo Schaefer, head of environment, energy and infrastructure. "For some time there has been a lack of clear and reliable perspectives for climate-friendly investments, such as in decarbonising the industry sector." In this context, he called for an early reduction of the renewable energy levy (EEG levy) to reduce the cost of electricity for households and industry.

Tax credits for green energy investment

The German finance minister Olaf Scholz said a stimulus package oriented toward in-

ternational climate targets and Germany's goal of becoming carbon neutral by 2050 would "make sense," as soon as the most pressing phase of the pandemic has ended.

Proposals include clean energy tax credits, requirements that bailed-out industries like airlines commit to emissions cuts, and investments in green infrastructure. This approach could both ensure that climate action is not neglected during the crisis, and help Germany stay competitive in energy transition technologies, a sector that could be worth about 23 trillion dollars by 2030, according to the World Bank. ■

Golar reaches COD acceptance for 1.5GW Sergipe power plant in Brazil

Golar's 1.5 GW Sergipe power project in Brazil has received Commercial Operation Date (COD) acceptance which triggers the start of earnings under a 25-year PPA and the associated charter for FSRU Golar Nanook. Combined pre-inflation revenue could amount to over \$1.8 billion.

COD on the Sergipe power plant will earn Golar approximately 6.9 billion Brazilian Reals, or \$1.3 billion, in pre-inflation adjusted revenue less operating costs over the next 25 years, the company said in its first quarter interim results. Acceptance of the charter for FSRU Golar Nanook will bring an additional \$549 million in revenue, less operating costs, over the same period.

"We expect Sergipe to take advantage of merchant power opportunities where the marginal cost of power exceeds the LNG purchase price, currently below \$2 per MMBtu delivered ex-ship in Brazil," said Golar LNG chief executive Ian Ross.

Short time-to-cash-flow

"The first three small-scale customers have now been formally signed up and LNG distribution operations are expected to start in 2021," Ross said, stressing the Brazil FSRU and integrated power project is characterised by a "short time-to-cash-flow" and a

"very strong project return."

Going forward, Golar Power seeks to convert the small-scale letters of intent it has into binding sales agreements over the course of this year, and sign new ones. To date, some 200 potential customers signalled interest to pursue various small-scale LNG opportunities, the Golar CEO disclosed, which demonstrates a "robust consumer appetite to reduce both energy costs and environmental footprints."

FID on Barcarena FSRU expected in mid-2021

Financial close on a floating LNG import terminal in Barcarena is expected later this year or early next year, with the associated 605 MW power station meant to take a financial investment decision (FID) in mid-2021. The Golar LNG CEO said he expects to reach supply agreement with industrial customers over the next four months for gas offtake from the Barcarena-based FSRU, scheduled to start operations in 2022.



He also wants to finalize arrangements for locating a Floating Storage Unit (FSU) at Suape over the course of the year.

Together Petrobras, Golar is working to overlay its geographical coverage of LNG distribution onto BR Distribuidora's 7,600 Brazilian fuel stations. The aim is to create the necessary infrastructure to convert current diesel, heavy fuel oil and coal consumers to cleaner-burning gas through the provision of a stable and secure LNG supply.

Throughout Latin America, Golar Power is working to develop an additional 10.6 GW of gas-fired power plants to underpin the development of additional floating regas terminal, some of which are currently in the permitting process. All these FSRU projects have downstream monetization routes through a combination of power generation, gas consumption by industry and small-scale LNG distribution via cabotage and ISO containers to end users. ■

Chart provides equipment for Indonesian LNG-to-power market

Chart Industries has teamed up with privately-held Risco Energy Solutions to provide LNG equipment like storage tanks, ISO containers and trailers in support of Indonesia's growing LNG-to power market. The agreement, signed in Q2-2020, is part of a series of gas-to-power or LNG fuelling-related orders.

Risco is a gas infrastructure provider to PT Perta Gas Niaga, part of Indonesia's Pertamina Group. The rental equipment will help transport LNG to decentralized power generation projects, and to set up LNG fuel stations for vehicles and trucks.

Shell signed a letter of intent to install 7 fuelling stations in Germany, and in May the oil major sealed the purchase order for two

of these seven stations. Another four stations were ordered from an unnamed customer, Chart said when giving an update on Q2-business activities.

"While the current economic situation continues to be challenging for our oil related product lines, we continue to see demand for our equipment and solutions related to the transition to clean energy infrastructure and our specialty markets," Chart stated.

India recently extended excise duties on diesel, and Germany is expected to prolong the toll exemption for LNG-fuelled heavy duty trucks on German highways in early June. Such tax breaks incentivise companies to build the relevant infrastructure, such as

LNG fuelling stations and additional over-the-road LNG trucks.

Cutting costs to improve margins, pay off debt

The Atlanta-based company has cut costs by over \$60 million year-to-date in a bid to expand its profit margin through 2020, achieve "strong free cash flow" for the year, "with debt paydown a priority."

April cash-intake from activities for continuing operations amounted to \$15.5 million and corresponding free cash flow included capital expenditures of \$12.6 million, driven by strong earnings, cash collections and supplier terms extensions.

Over the past two months, the company has approached all their 311 suppliers to negotiate an extension of payment terms of 38 days. New payment terms for those suppliers average 89 days. ■



Germany to push for 'green recovery' in EU Council Presidency

Climate policy linked to the European Green Deal and the digital transformation will be "at the centre" of the German EU Council presidency in the second half of 2020, Chancellor Merkel told parliament. "Recovery after the crisis must be a 'green recovery,'" a strategy paper by the foreign office reads.

Issues like Brexit and negotiations of the next European budget will also demand a lot of attention, though Germany seeks to prioritise energy infrastructure investment as a means to help accelerate Europe's economic recovery. To that end, Berlin plans to present its final presidency programme "shortly before" its kick-off on 1 July.

Together with the two next Council presidencies – Portugal and Slovenia – Germany forms the so-called "trio presidency" and will have to develop a more long-term programme for climate policy and designing a sustainable, digital Europe.

EU Green Deal tightens 2030 climate targets

Merkel and the French President Emmanuel Macron have already thrown their weight behind the idea of a European green stimulus and proposed a €500 billion European recovery programme, emphasising

climate targets.

The EU Green Deal accelerates a shift to green power sources with the aim to achieve net-zero emissions by 2050. To that end, Germany and France tightened their 2030 target from 40% to 55% emissions reduction.

Industry calls for tax relief

The industry responded swiftly, calling for emergency support measures during the coronavirus crisis such as tax reliefs and rules to boost investments in climate action. Dieter Kempf, head of the German industry association BDI, said private investments in energy efficiency and digitalisation could be boosted by improving amortisation rules for new project finance.

He also stressed that high power prices remain a burden for the competitiveness of German industry. A reduction of the sur-



charges and levies on electricity, such as grid fees, could instantly put money into the pockets of companies and private households alike.

Taxes and the renewable energy surcharge (EEG levy) have pushed up Germany's household electricity prices to the second highest level in Europe, topped only by prices in Denmark. While Danish households paid €29.2 per 100 kWh on average in the second half of 2019, prices in Germany averaged €28.7, according to the EU statistics office Eurostat. ■

Poland's Baltic Pipe secures final permit

Baltic Pipe, connecting the Polish gas grid with Norway, has secured construction permits through Sweden's territorial waters - the final permits required before works can begin. The pipeline will have nearly 1 billion cubic feet per day (Bcf/d) of capacity and is due on stream by October 2022.

The Polish government supports the Baltic Pipe is a strategic project that helps diversify the country's sources of gas supply - an increasingly pressing issue due to the May 17 expiry of the Yamal pipeline transit agreement with the Russian major Gazprom. In addition, a long-term gas supply contract between Poland's state gas company PGNiG and Gazprom will come to an end on December 31, 2022.

Diversifying supply

Eager to ensure supply security, PGNiG arranged bi-directional gas flows and expanded several interconnectors with Germany, the Czech Republic, and Slovakia, increased from 97 million cubic feet per day (MMcf/d) in 2010 to 242 MMcf/d in 2019. Four years ago, Poland also started to import LNG through the 0.5 Bcf/d LNG Polskie LNG terminal in Świnoujście, located on the Baltic Sea near the Polish-German border.

As a consequence, Poland managed to reduce its reliance on Russian gas imports from 90% to less than 60% over the past decade. Ten years ago, Russian gas imports

accounted for 90% of imports and more than 63% of Poland's supply, but these volumes fell to 60% of all imports and 48% of the total consumption.

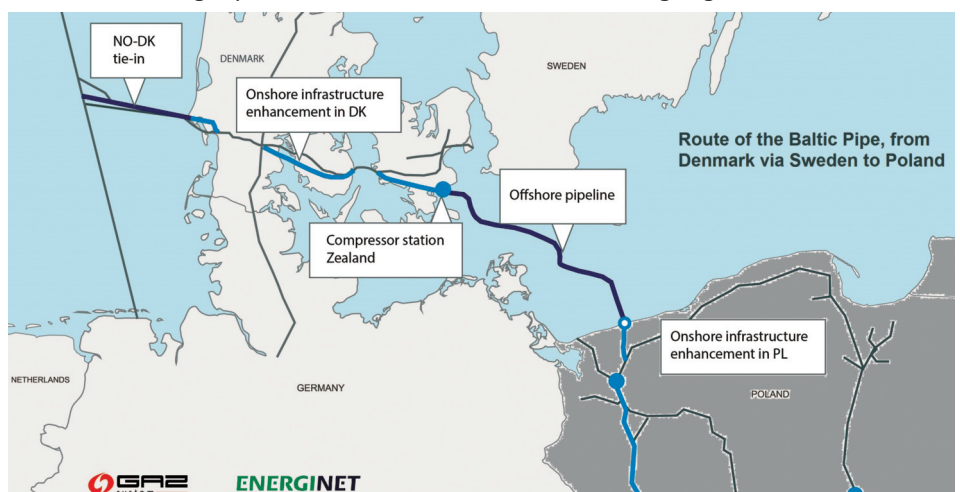
The Baltic Pipe will open up an entirely new supply source for Poland – natural gas from Norway.

Falling domestic production, rising demand

Poland's domestic gas production has been in

continuous decline over the past decade, falling to 0.4 Bcf/d or 20% of total supply in 2019, while consumption gas grown by over 30% over the same period, rising from 1.4 Bcf/d in 2010 to currently just over 1.8 Bcf/d.

The rise in gas demand has been caused by Poland's main utilities having added more than 13,000 miles of domestic distribution and trunk lines to connect millions of industrial, residential, and commercial consumers to the national gas grid. ■



Field trials start on first power-to-X-to-power hydrogen gas turbine

Engie, Siemens, Centrax, Arttic, German Aerospace Center (DLR) have started field trials on the world's first industrial-scale power-to-X-to-power demonstrator as part of the HYFLEXPOWER project. The aim is to produce, store and use renewable hydrogen to fire a Siemens SGT-400 industrial gas turbine, installed at cogeneration plant operated by paper factory in France.

The project's total budget is close to €15.2 million, of which €10.5 million will be contributed entirely by the European Union under the Horizon 2020 program.

Engie Solution operates a 12 MWe combined heat and power (CHP) plant at the Smurfit Kappa site which produces steam for the manufacturing company's requirements. This power plant will be used for demonstration project as the conversion of existing infrastructure helps to significantly lower costs and lead time.

To prove the Smurfit's CHP plant can run up to 100% on renewable hydrogen,

Siemens will upgrade a SGT-400 gas turbine needs to convert stored hydrogen into electricity and thermal energy and will also supply the electrolyser for hydrogen production.

Works began in May 2020

Engineering works were launched in May at Smurfit Kappa PRF's site - a company specialized in manufacturing recycled paper in Saillat-sur-Vienne, France.

Each stakeholder of the European consortium has a clearly defined role: Engie will build the hydrogen production station and the mixing gas/hydrogen mixing station in 2021, which will be followed by Siemens' installation of the gas turbine in 2020 and initial demonstration of the pilot plant concept.

Centrax will help upgrade and install the new turbine, German Aerospace Center (DLR) - together with University College London, University of Duisburg-Essen and Lund Univer-

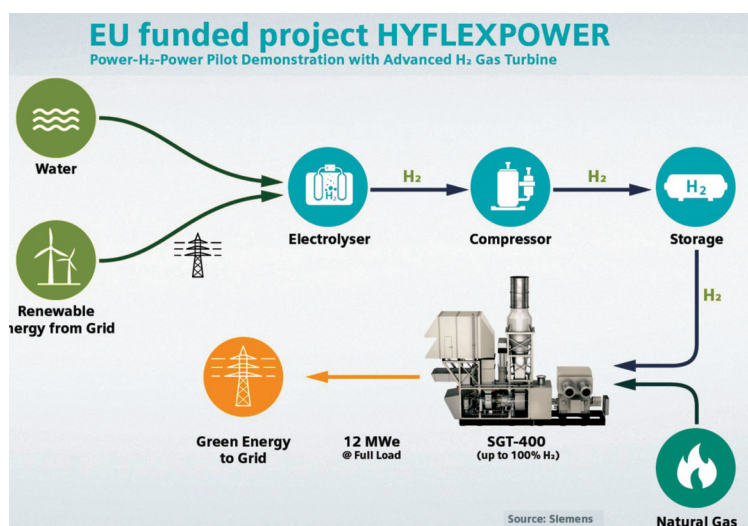
sity - will support the hydrogen turbine technology development, Athens' technical university will assess the concept while attic will support the operational project management.

Aiming for full hydrogen firing by 2023

During two demonstration campaigns, the facility will be powered by a mix of natural gas and hydrogen, ultimately aiming for up to 100% hydrogen operation by 2023.

"Our goal is to make our gas turbines usable for 100 percent hydrogen. With that, our gas turbines can be the "technology of choice" for our customers to complement the intermittence of renewables and ensure a secure energy supply in the decarbonized world of the future," said Karim Amin, CEO of the Generation Division of Siemens Gas and Power.

Project partner see the storing of fluctuating renewable energy as "one of the major challenges of the energy transition." Striving to store excess renewable energy in the form of green hydrogen, the HYFLEXPOWER project will then test an entirely green hydrogen-based power supply for a completely carbon-free energy mix. This would save up to 65,000 tons of CO₂ per year for a SGT-400 at baseload operation.



Vattenfall commissions Berlin-Marzahn CHP with 92% fuel efficiency

Vattenfall has commissioned the Berlin-Marzahn combined heat and power (CHP) plant, built by Siemens as general contractor. The CHP supplies district heating for the eastern part of Berlin and has a maximum fuel efficiency of 92%, making it one of Europe's most efficient power plants.

The Marzahn CHP has an electrical capacity of approximately 260 MW, and a thermal capacity of around 230 MW. Together with a gas-fired power plant in Klingenberg, it will form the backbone of the district heating supply in the eastern part of Berlin with a total of 450,000 households.

Aiming for hydrogen-fired CHPs

At the same time, a CHP plant like the one in Marzahn can play an important role in the currently hotly debated hydrogen strategy for Germany.

Green hydrogen, produced via electrolysis from excess wind and solar power supply, is currently being tested for use as fuel in replacement for natural gas which could potentially reduce power plant emissions to zero.

"The truth here, however, is that a lot of research and development still has to be

done," Wielgoß cautioned, suggesting it might still take a while for this technology to be future-proof for both heating and power supply.



Model of Berlin-Marzahn CHP

Shanghai Electric accelerates digitalization with SEunicloud

Chinese power generation equipment maker Shanghai Electric has upgraded its digital platform SEunicloud to match industrial energy demand with intermittent supply from wind farms and distributed thermal power units. The platform digitally integrates various energy sources via machine tool maintenance and energy storage.

The energy planning solution has been co-developed by Shanghai Electric Distributed Energy Co., Ltd and Lawrence Berkeley National Laboratory. It allows customers to evaluate the financial viability of large-scale energy production projects before commissioning their construction.

Fast online delivery of spare parts

To that end, the platform covers 90% of the power plant "must-have" spare parts product lists. It can facilitate the online delivery of more than 22,000 spare parts products and 70 standard repair packages — all at near factory price.

Customers can use a standardized format for requirements. This improves the transaction efficiency by streamlining the communication process between buyers and sellers. Through big data analysis, the E-commerce platform stimulates the hope of incubating an integrated data-driven



solution for intelligent and customized products and services.

Remote run equipment diagnostics

Prior to placing any order, users of the SEunicloud platform can remotely run equipment diagnostics. They can procure and manage supply chains and monitor supplier contracts, source bidding, online purchasing and order coordination.



The intelligent supply chain platform also helps match sellers and buyers through historical data analysis in the procurement pricing process and automatically tracks and documents suppliers'

historical performance. This facilitates the overall supply chain management process for due diligence.

"Under the big picture of 'new infrastructure', Shanghai Electric is leveraging its competitive advantage in big data in multiple pipelines, and paving the way for an integrated platform-based solution for the whole power industry," said Huang Ou, the Director and President of Shanghai Electric Group. ■

Burckhardt Compression's sales and profit rise despite drop in orders

Swiss gas compression solutions company Burckhardt Compression has posted a rise in sales and profits in fiscal 2019 although incoming orders fell below pre-year figures. Gross profit came in at 149.8 million Swiss francs, a 10.4% rise year-on-year, resulting in a profit margin of 23.8%.

"Incoming orders did not match the record-high figure from the previous fiscal year," the Winterthur-based company said. Operating and net income showed some improvement, but are still not yet at the levels Burckhardt has targeted in its mid-range plan."

Consolidated order intake amounted to 607.3 million francs, 7.8% below the figure for the previous fiscal year, which was the highest ever recorded in the history of Burckhardt. Net income in fiscal 2019 rose by 23.8% to 39.9 million Swiss francs, or 6.3% of sales.

Targeting stable margins in FY2020

Nonetheless, for full year sales Burckhardt targets of more than 650 million Swiss francs (\$676 million), despite the current global uncertainties.

"From today's perspective, the company expects stable profit margins for the 2020 financial year," it said, noting; "The longer-term effects of the global coronavirus situa-

tion on Burckhardt's business cannot be estimated at this time."

The gross profit margin at the System Division increased to 11%, up from 8.1% in fiscal 2018, despite some 10 million Swiss Francs in cost overruns from the Burckhardt's LNGM business.

Gross profit at the Service Division, meanwhile, was up just 1.7% — well below the prior-year gross margin of 47.0%. The company notes in its earnings statement this is primarily because the gross margin at Arkos Field Services is much lower than the average margin of the Group's other ser-

vices operations. So, excluding acquisition activity, the gross profit margin of the Services business stood at 47.8%.

Net loss amid Arkos acquisition, investment in China

The net financial position in fiscal-2019 amounted to a loss of 91.7 million francs, up from the loss of 49.4 million francs in the previous year.

This figure reflects an increase in net working capital, the acquisition of the remaining 60% interest in Arkos Field Services and the fixed investment at the new factory in Shenyang in the northeast Chinese province of Liaoning.

"Construction of the new factory in Shenyang, China, is well on track despite an interrupt of six weeks because of the coronavirus outbreak," Burckhardt Compression underlined, so "the new factory will be able to commence operations in autumn 2020, as planned." ■



Fine-tuning of a compression unit after manufacturing

Ansaldo commissions gas power project in Tunisia ahead of schedule

Ansaldo Energia has completed construction and commissioning of the Mornaguia gas power plant in Tunisia ahead of schedule, despite difficulties related to the coronavirus pandemic. STEG, the owner of the 625 MW plant, can now bring the facility to full capacity in time for peak summer demand.

STEG, short for Société Tunisienne de l'Électricité et du Gaz, has contracted Ansaldo Energia in 2018 to build the Mornaguia power plant. The order, worth some 250 million Euros, covers construction, commissioning, equipment supply, as well as maintenance work.

Situated southwest of Tunis, the Mornaguia power plant is driven by two AE94.3A model gas turbines, plus the relative generators and auxiliary systems. All

equipment has been manufactured in Ansaldo's production facilities in Genoa, Italy.

As a quick-start turbine, the AE94.3A can reach baseload condition in less than 25 minutes thanks to a fast load ramp, making it suitable for grid balancing. The turbine can run in both open and combined-cycle mode. The turbine's hot fuel change-over function allows the turbine to run on a wide range of fuels, from natural gas to liquids.

Since 1999, Ansaldo has installed over 70 units of AE94.3A turbines at customer sites worldwide with a combined capacity of almost 20 GW.

The Italian manufacturer has developed several power projects in Tunisia such as the Sousse C and Sousse D plants in the Sidi Abdel-Hamid region, and the Rades B plant. It also coordinates service work on the Ghannouch plant.



Installation of Ansaldo AE94.3A turbines at the Mornaguia site

GE completes upgrade at Tirreno's 1.2GW power plant near Rome

In Italy, GE has completed the installation of a new rotor and a compressor on a 9F.03 gas turbine at Tirreno Power's 1,200 MW Torrevadalis Sud Power Plant near Rome. The modernization project started in late February and works were finished on time and safe amidst the pandemic.

“With work already underway, it was crucial that GE complete the turbine modernization to restore the availability of our plant, which produces the equivalent of electricity consumed in average by 3 million homes,” said Alessandro Gaglione, Tirreno Power Head of Power Generation. “Relying on outstanding technical skills of the staff involved in this critical operation, we decided to confirm the work plan in order to make our plant promptly available for the national grid to help secure the energy supply in Italy in the emergency period.”

The modernization consisted of the installation of a new rotor and compressor to increase the robustness and durability of the turbine. The engineering enhancements

reduce the impact of degradation naturally occurs with time on the rotor components, improving their operating lifespan and reducing the risk of unplanned downtime.

Extra layer of safety measures

In the face of the pandemic, engineers from GE its field service team FieldCore worked closes with Tirreno Power experts to implement more frequent disinfections at the site, physical distancing rules and the use of personal protective equipment.

“Despite the daily challenges caused by the pandemic and longer-than-expected isolation from

MAN installs 51/60 engines to expand Bermuda's main power station

MAN Energy Solutions has installed, commissioned and handed over a 56 MW power plant block to its customer, Bermuda Electric Light Company (BELCO). The new unit expands the Pembroke power station which supplies most of the energy needs of Bermuda's capital city Hamilton.

Working in consortium with Burmeister & Wain Scandinavian Contractor (BWSC), Germany-based MAN Energy Solutions was responsible for the delivery and commissioning of the unit's four 14V51/60 dual-fuel engines, while the Danish power plant specialist BWSC handled the plant's construction.

Start-up of the four dual-fuel 14V51/60 engines will allow BELCO to retire several of Pembroke power station's older units, currently 17 in total. The upgraded plant will ensure reliable and efficient energy supply for 60,000 local inhabitants of the Bermudian capital.



Pembroke power complex near Hamilton, Bermuda.

family and loved ones, our 30-strong team worked day and night to complete the outage, safely,” said Steven Miller, Service Leader for Europe at GE Gas Power.

Throughout Italy, GE-built technologies generate over one-third of the electricity supply.



View of Torrevadalis Sud power plant

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