#### Europe's top economies falter as new virus clouds outlook



Tumbling industrial production in Germany and France in December rounded off a year blighted by trade war tensions for Europe's top economies, official data showed Friday, while the novel coronavirus outbreak threatens hopes of a 2020 revival. Growth in both nations sputtered in 2019, with output actually shrinking for Germany in the April-June quarter and for France in October-December.

German growth overall slowed from 1.5 percent in 2018 to just 0.6 percent in 2019, according to preliminary data, while France did better but still slipped from 1.7 to 1.2 percent.

In December, manufacturing output was down 3.5 percent monthon-month in Germany and off 2.8 percent in its western neighbour. In Germany, "there are very few positive elements to find in the December industrial data," ING bank economist Carsten Brzeski said, adding that the figures point to Europe's top economy having shrunk in the fourth quarter.

In the final months of last year, there was still widespread uncertainty about whether the US and China would bury the trade hatchet, after months of tough negotiations and tit-fortat tariffs.

Figures released Friday showed Germany's trade surplus – the amount exports outweigh imports – shrank slightly from 228 billion euros (\$250 billion) in 2018 to 224 billion euros in 2019.

The US and China last month signed a "phase one" trade pact, designed to ease the commercial tensions whose knock-on effects last year battered European manufacturers. Meanwhile Britain's departure from the European Union – pushing the risk of a fresh "no deal" cliff-edge back to December – also helped brighten the mood.

More positive "soft" indicators like German business sentiment surveys in Germany have prompted some analysts to see clearer skies ahead for manufacturers.

Despite December's data, "forward-looking indicators continue to point to a modest cyclical rebound in the near term," said Frederik Ducrozet, strategist at Pictet Wealth Management.

With Brexit and trade tensions less prominent for now, two of the main risks to growth cited by institutions like the European Central Bank have ebbed. Against that backdrop, "the coronavirus comes at a particularly bad moment," BNP Paribas analyst William de Vijlder said.

"The global economy was showing tentative signs of a growth pick-up and, in all likelihood, this momentum will now be stopped or even reversed". Global efforts to contain the coronavirus will likely brake activity at companies around the world for whom China is a vital link in global supply chains — including Germany's massive car industry.

Given that, "we doubt this will be the last of the run of negative quarters," said analyst Andrew Kenningham of Capital Economics.

There is also little prospect that the ECB will step in to shore up growth by further opening the money sluices, analysts said.

Policymakers are already divided over its unprecedented low and negative interest rates and "quantitative easing" (QE) bond-buying scheme, and the bank has just kicked off a yearlong rethink of its strategy and goals.

Low rates and meagre inflation have "significantly reduced the scope for the ECB and other central banks worldwide to ease monetary policy," ECB president Christine Lagarde told European Parliament lawmakers in Brussels Thursday.

Instead, governments should use tax and spending changes to buttress their economies where they can, she said.

In the ECB's assessment of the eurozone economy, "the balance of risks to the outlook will likely remain tilted to the downside until the effects of the coronavirus are better known," Pictet economist Ducrozet said.

That "may prompt a more cautious tone from the ECB" when policymakers meet next month, he added.

# Russia says it needs time to decide on oil output cuts



MINERALNYE VODY/MOSCOW, Russia, Feb 7 (Reuters) – Russia said on Friday it needed more time to decide whether to join any additional oil output cuts by OPEC, saying U.S. crude production growth would slow and global demand remained solid.

Energy Minister Alexander Novak was speaking as the Organization of the Petroleum Exporting Countries pushes Moscow to make a decision on whether to cut output more in response to the coronavirus outbreak that has hit the global economy.

A technical panel that advises OPEC and its allies, led by Russia — a grouping known as OPEC+ — proposed on Thursday a provisional cut of 600,000 barrels per day (bpd), three sources told Reuters.

Producers in OPEC+ are scheduled to meet in Vienna on March 5-6, although the meeting could be brought forward depending on how the coronavirus outbreak affects oil prices.

Novak said Moscow needed more time to assess the situation, stopping short of giving a clear Russian position on the proposal. Oil prices have come under pressure recently in the absence of a Russian response to calls for more output cuts.

"I can't tell you about my position right now, maybe we will say it next week," Novak said when asked about Moscow's position. "Russia needs a few days for market analysis."

Crude prices fell on Friday following Novak's comments. They had rallied earlier on remarks from Russian Foreign Minister Sergei Lavrov that were initially seen as being more upbeat about the proposal to cut output.

Speaking at a news conference in Mexico City on Thursday, Lavrov said via interpreters that Moscow supported "the idea", when asked about the proposal.

However, a foreign ministry transcript of his comments suggested he was speaking in general terms.

Lavrov was asked: "Is Russia planning to support the call by OPEC+ to cut oil production, as was suggested at a recent emergency meeting?"

He replied: "We are actively supporting cooperation within the framework of OPEC+ and collaboration between oil exporting countries, including both OPEC and non-OPEC countries."

On Friday, Novak said global oil demand might fall by 150,000 to 200,000 bpd this year due to the virus outbreak and other negative factors, lower than other forecasts.

Novak said his estimate was "an insignificant volume, taking into account that the volatility in consumption also depends on many factors, such as Libya, Iran, Venezuela, where supply is also quite volatile".

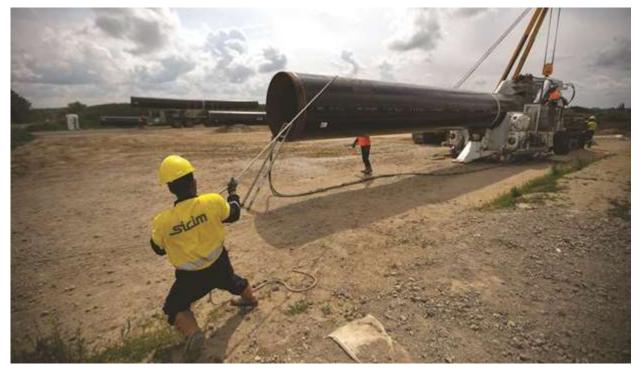
Others have suggested a much bigger impact. BP said a global slowdown was expected to reduce 2020 oil demand growth by

300,000-500,000 bpd, or up to 0.5% of total demand.

Novak also said U.S. oil output was not expanding as fast as before.

"Growth is slowing down in the United States. It was 1.3 million bpd last year ... This year, we expect less than 1 million," he said. "Oil production growth is slowing down there due to lower prices." (Reporting by Olesya Astakhova; Writing by Vladimir Soldatkin; Editing by Edmund Blair, Katya Golubkova and David Clarke)

#### US says it has thwarted \$6bn Russia-Germany gas pipeline



Bloomberg/Munich

President Donald Trump's top energy official said he's confident that Russia won't be able to complete the Nord

Stream 2 gas pipeline in the Baltic Sea – and signalled that the US will press forward with its opposition to the project. Asked about Russian efforts to circumvent US sanctions on the pipeline by completing it on its own, US Energy Secretary Dan Brouillette said "they can't" – and dismissed claims that project owner Gazprom PJSC will face only a short delay. "It's going to be a very long delay, because Russia doesn't

have the technology," Brouillette said in an interview at the Munich Security Conference on Saturday. "If they develop it, we'll see what they do. But I don't think it's as easy as saying, well, we're almost there, we're just going to finish it."

The pipeline, which would pump as much as 55bn cubic metres of natural gas annually from fields in Siberia directly to Germany, has become a focus for geopolitical tensions across the Atlantic. Trump has assailed Germany for giving "billions" to Russia for gas while it benefits from US protection.

Nord Stream 2's owners had invested €5.8bn (\$6.3bn) in the project by May 2019, according to company documents.

US sanctions in December forced Switzerland's Allseas Group SA, which was laying the sub-sea pipes, to abandon work, throwing the project into disarray. The US has said Europe should cut its reliance on Russia for gas and instead buy cargoes of the fuel in its liquid form from the US.

"It's distressing to Americans that, you know, Germany in particular and others in Europe would rely upon the Russians to such a great degree," Brouillette said, adding that he is unaware of additional sanctions should Russia move to defy the US.

Even as he spoke, signs emerged that Gazprom's attempts at completion may be underway. A Russian pipe-laying vessel, the Akademik Cherskiy, left the port where it had been stationed in Nakhodka on Russia's Pacific coast last Sunday. Russian Energy Minister Alexander Novak last year mentioned that vessel as an option to complete the pipeline in Denmark's waters. The vessel is now expected to arrive in Singapore on Feb. 22, according to ship-tracking data on Bloomberg. Akademik Cherskiy pipe-laying vessel started moving, only to indicate Singapore as its next indication.

While Gazprom has said it's looking at options to complete the pipeline, it hasn't given any details on where it will find the ship to do the work. One of the pipeline's financial backers, Austrian gas and oil company OMV AG, has predicted that the Russians will follow through. "From my point of view, they will find a solution," Rainer Seele, OMV's chief executive officer, told Bloomberg on Saturday.

The pipeline was just weeks away from completion, with 94% already constructed, when US sanctions halted work. There's a small section in Denmark's waters that needs to be finished. Before the halt, Nord Stream 2 hoped to finish construction by the end of 2019 or in the first few months of this year. That would allow gas deliveries in time to supply Europe by winter 2020-2021.

Besides OMV, Nord Stream 2's other European backers

# Permian poised for 'aggressively negative' gas amid supply swell



Natural gas prices in America's biggest shale basin are going negative again as production surges faster than pipelines can be built to take it away. Gas for March delivery at the Waha hub, located in the Permian Basin of West Texas, has been trading below zero over the past week, Bloomberg Fair Value prices show. The rout is poised to get even worse as supplies swell, according to commodities bro- ker OTC Global Holdings.

Permian gas prices went nega- tive for the fi rst time in the spring of 2019, rebounding when Kinder Mor- gan Inc's Gulf Coast Express pipeline started up in the fall. History is repeating itself this year as gas output from the basin continues to soar, with the next major conduit not expected to enter service until later in 2020. Permian explorers extract the fuel as a byproduct of oil drilling, making them less responsive to tumbling gas prices.

"We just have an ocean of gas and there is just nowhere to go with it," said Campbell Faulkner, chief data analyst for OTC. "I think we are going to see aggressively negative spot prices. That just puts a real chill around the gas market." The dearth of Permian pipelines has contributed to an uptick in fl ar- ing, the process of burning gas off instead of capturing it from the well. Flaring, which produces carbon di- oxide, has come under increasing scrutiny amid growing concern about climate change. Weaker prices in the basin, though, could be a boon for would-be exporters like Tellurian Inc and NextDecade Corp that plan to tap Permian supply and ship it to Europe and Asia. Gas for next-day delivery at the Waha hub dropped as low as minus \$4.63 per million British thermal units last spring, according to the Bloomberg Natural Gas Composite price.

While spot gas is still in positive territory, trading at \$1.58 on Wednes- day, prices for March delivery suggest that won't last long. "The forward curve this time last year wasn't great, but it wasn't as bearish," Faulkner said. "I'm looking at this and thinking this isn't bearish enough."

# Energy markets need winter, and climate change is taking it away

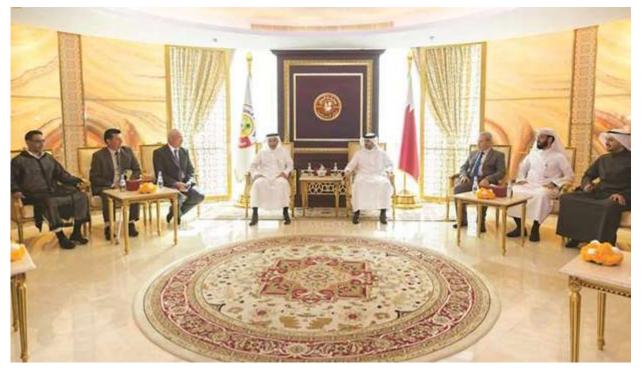


Even before the deadly virus struck, another menace confronted the global energy industry: the warmest winter anyone can remember. Russia's winter was so balmy that snow was trucked into downtown Moscow for New Year, and bears came out of hibernation. In Japan, ski competitions were cancelled and the Sapporo Snow Festival had to borrow snow. On the shores of Lake Michigan, Chicago residents watched playgrounds and beaches disappear under the waves as warm weather swelled the water level. Norwegians basked in T-shirts in January. London's spring daff odils have already flowered.

For global energy markets it's a disaster — and as the world continues to get hotter it's something producers, traders and government treasuries will have to live with long after the acute dislocation of the coronavirus has passed. The industry relies on cold weather across the northern hemisphere to drive demand for oil and gas to heat homes and workplaces in the world's most advanced economies. Climate activists might find a certain poetic justice in energy markets suffering from the global warming caused by fossil fuels. Burning oil and other fuels to heat homes and businesses accounts for as much as 12% of the greenhouse-gas emissions blamed for raising the world's temperatures. The loss in global oil demand due to mild temperatures is probably about 800,000 barrels a day in January, according to Gary Ross, chief investment off icer of Black Gold Investors LLC and founder of oil consultant PIRA Energy. That's the equivalent of knocking out Turkey's entire consumption. The natural gas market has taken a similar hit. "The oversupply keeps coming and winter so far hasn't really showed up," said Ron Ozer, chief investment off icer of Statar Capital LLC, an energy- focused hedge fund in New York. Last month was the hottest January ever in Europe, the Copernicus Climate Change Service reported. Surface temperatures were 3.1 degrees Celsius (5.6 degrees Fahrenheit) warmer than average. Northern Europe was particularly hot, with some areas from Norway to Russia more than 6 degrees above the 1981- 2010 January average. Temperatures in Tokyo took until February 6 to hit freezing point, the latest date on record. Globally, the last five years have been the hottest for centuries, as greenhouse gases change the Earth's ecosystem. Natural gas prices have collapsed globally as the weather crimped the need for heating. US futures are trading at the lowest levels for this time of the year since the 1990s. Asian spot prices for liquefied natural gas have crashed to a record low as demand slumps in the world's three biggest importers- Japan, South Korea and China. Based on weather-driven demand data, the US and Asia are having their warmest winters on record and Europe is having its second warmest, according to Joe Woznicki, a meteorologist for Commodity Weather Group LLC. A key measure of heating demand, known as heating degree days, is 12% below the 10-year average in the US, 14% lower in Asia and 13% in Europe. And it's not just markets that are reeling. It's also an issue for government treasuries. Russia, for example, relies on its oil and gas companies for around 40% of budget revenues. Oil exports have been holding steady, but gas exports are dropping. Sergei Kapitonov, gas analyst at Moscowbased Skolkovo Energy Center, estimates Gazprom's exports to Europe and Turkey fell in January by about a quarter from a

year earlier. Gazprom stock is down 11% this year. The collapse in oil prices – spurred by the coronavirus but pushed along by the warm weather - prompted a push to urge Opec+ allies for a production curb last week. Three days of wrangling in Vienna didn't produce a clear result. From Algeria to Venezuela, similar dynamics are in play. This year's especially warm winter was triggered by events in the Arctic. An intense weather pattern there kept the cold locked in the Arctic region, leaving North America and Eurasia relatively mild. "When the winds are stronger they act as a barrier to keep Arctic air focused over the pole and keeps them from spilling southward," said Bradley Harvey, a meteorologist with Maxar in Gaithersburg, Maryland. "That is likely to continue for the balance of the month and even into March." Rain patterns have also been unusual- and that's added to volatility too. In Norway, the biggest source of electricity comes from running water through turbines. The wettest January since records began turned a deficit of water in reservoirs in December to a huge surplus in January-and sent prices crashing in the Nordic power market. The abnormal winter could hardly have come at a worse time for the US gas market, which is already suffering a glut. US shale drillers have delivered two years of unprecedented production growth and in the Permian Basin of West Texas and New Mexico there's so much gas - the byproduct of drilling for oil - that producers are even paying to get rid of it. Europe and Asia were set to become important export outlets for American gas. Then the weather changed. "It's unfortunate that we're making all this LNG that's not worth very much around the world," Corey Grindal, senior vice president of supply at Cheniere Energy Inc, said.

#### Audit Bureau chief meets Arabosai's panel members



QNA /Doha

HE the President of the State Audit Bureau Sheikh Bandar bin Mohamed bin Saoud al-Thani met the members of the delegations participating in the 14th meeting of the Professional and Audit Standards Committee of the Arab Organisation of Supreme Audit Institutions (Arabosai), which is hosted by the State Audit Bureau.

Representatives of the supreme audit bureaus that are members of the committee in Kuwait, Oman, Morocco, Tunisia, Palestine, Iraq, and Jordan, in addition to the representative of the Arabosai secretary-general, attended the meeting.

The State Audit Bureau holds the presidency of the Executive Council of Arabosai for 2019-2022. It also chairs the Professional and Audit Standards Committee, which is among the technical committees of the organisation that works to enhance the capabilities of Arabosai members in applying professional standards by keeping abreast of periodic updates to the standards, preparing research and related studies, and proposing training activities and initiatives aimed at improving the level of commitment to the requirements of professional standards in the implementation of oversight work, which enhances the credibility of regulatory reports issued by the audit institutions.

#### Norway to set new limit for Arctic oil drilling



OSLO (Reuters) — Norway may restrict oil firms' access to offshore resources in the Arctic by moving the so-called ice edge, a line that sets a legal limit on the extent to which companies can go north in search of oil. The ice edge is a legally drawn boundary that is meant to approximate the constantly changing southern fringe of the permanent ice sheet. Anything north of that legal line is off-limits to oil drilling under Norwegian law.

However, instead of redrawing the line further north to reflect the retreating ice sheet, the ruling coalition may move it further south as it responds to political pressure to extend environmental protection of the Arctic.

The ice cover in the Barents Sea has halved over the past 40 years. In practice, it would be ice-free year-round by 2050 given the current trend, Tor Eldevik, a professor at the Bjerknes Centre for Climate Research at the University of Bergen told Reuters.

"It's one of the difficult issues (for the government to decide on)," Prime Minister Erna Solberg told Reuters in an interview.

"The ice cap is moving, it's been moving upwards ... You can't measure it every year, so you have to put the line, and have a discussions where that line would have to be."

"If you take it too far down then it would cross some areas that are already being explored."

The centre-right minority government has been reviewing the ice edge boundary and is due to present its new demarcation line to parliament in April. It has already received recommendation from an advisory group of Norwegian research institutions and state agencies, which have presented two options.

One would be to draw the line where the sea ice appeared at least 30% of the time in April, the peak month for the Arctic ice sheet in the Barents Sea, between 1988 and 2017.

That would place the line further north than today, as the current line, set in 2006, was based on sea ice observations from 1967 to 1989.

The other option is to draw the line at where sea ice

probability is only 0.5%, in order to protect the Arctic environment. This would place the line further south and would be problematic for oil and gas companies, Norway's biggest industry.

It would affect at least eight oil exploration licenses operated by Equinor, Aker BP and Spirit Energy, majority owned by Britain's Centrica, the Norwegian Oil and Gas Association (NOG), a lobby group, said.

It would also come close to the Wisting discovery estimated to hold 440 million barrels of oil. Equinor plans to develop the discovery together with OMV, Idemitsu Petroleum and Petoro, a Norwegian state-owned firm.

"The sea ice influences the ecosystem that lies further south ... and this is why some think that it should be further south than it has been before," said Cecilie von Quillfeldt, a senior adviser at the Norwegian Polar Institute.

The NOG is proposing a third option: to use a "dynamic" ice edge definition, meaning that the line would move along with observable sea ice, and is not set as "a static and politically determined line on the map".

Lawmakers Reuters spoke to said the most likely deal would be moving the line further south than now, but without affecting oil licenses already granted to companies.

"None of the extremes would gain enough support. The line would be put somewhere in the middle," Lene Westgaard-Halle, a Conservative lawmaker on parliament's energy and environment committee, told Reuters.

An opposition lawmaker, speaking on condition of anonymity, said such a compromise would be acceptable.

However, pro-green lawmakers in all parties are enjoying popular support and could be successful in pushing for the ice edge definition that goes the most south.

Waters close to the ice sheet are important feeding grounds for many Arctic species, from tiny zooplankton to polar bears and whales. At the same time, the Barents Sea may contain twothirds of the oil and gas yet to be discovered off Norway, according to Norwegian official estimates.

#### China's State LNG Buyers Mull Force Majeure Amid Virus Fight



China's big state-owned liquefied natural gas importers are considering force majeure declarations on contracted cargo deliveries as they grapple with the impact from the novel coronavirus, according to people with knowledge of the situation.

The fight against the deadly virus is threatening China's economic growth and is casting a cloud over energy demand for the top crude importer and second-biggest LNG buyer. The nation's oil consumption is already estimated to have dropped by 20%, which is expected to cause fuel makers to cut back production and seek to delay some oil shipments. A decline in gas demand is similarly forcing buyers to consider postponing deliveries to cope with high inventories.

The LNG importers, including China National Offshore Oil Corp., are still assessing the impact on consumption and haven't decided yet whether to make the declarations, said the people, who asked not to be identified as the information isn't public. Firms declare force majeure when they're unable to meet contractual obligations for reason beyond their control.

A drop in China's gas demand would likely leave little outlet for additional imports as the nation has been grappling with high inventories over the last few months amid milder-thannormal winter temperature. And any disruption or cancellation of cargoes to China would put more pressure on Asian spot LNG prices, which have hit record low levels amid a global glut of supply.

CNOOC and PetroChina Co. have begun drafting the necessary documents to issue the declarations, in case they decide to move ahead, said the people. Sinopec Corp. is also considering force majeure.

PetroChina and Sinopec declined to comment. Nobody answered multiple calls to CNOOC.

China said last week that it would offer support to companies that sought to declare force majeure on international contracts. The announcement came as provinces accounting for two-thirds of China's gross domestic product extended the Lunar New Year holiday until at least the second week of February, prolonging the shutdown of factories that produce everything from cellular phones to sneakers.

The Japan/Korea Marker, the spot LNG benchmark for Asia, fell to a record low \$3.512 per million British thermal units on Monday, according to S&P Global Platts.

- With assistance by Anna Shiryaevskaya, and Feifei Shen

(Updates with JKM price in final paragraph.)

# Qatargas achieves major milestone with North Field Bravo Living Quarters Expansion project



Qatargas has achieved a major milestone with its North Field

Bravo (NFB) Living Quarters Expansion (LQX) Project as it safely and successfully completed the onshore fabrication of the living quarters' structure locally, a first in the country.

The fabrication was done by Nakilat-Keppel Offshore Marine (N-KOM) at the Erhama Bin Jaber Al Jalahma Shipyard. The project is significant for Qatar as it is for the first time that a major offshore living quarter's structure has been entirely fabricated at a local yard in the country.

Qatargas organised a ceremony to mark the sail-away of the jacket and topside of the structure at Ras Laffan. The event was attended by Qatargas' shareholders and senior executives, N-KOM, and the project's contractor, Rosetti Marino.

"This project is a historic milestone for Qatar as it highlights a new and important capability. This achievement showcases the capabilities, skills and resources which are available locally at the Erhama Bin Jaber Al Jalahma Shipyard for the fabrication of large and complex offshore structures," said Khalid bin Khalifa al-Thani, chief executive, Qatargas.

Qatargas had awarded the engineering procurement and construction contract for the LQX project to Rosetti Marino that undertook engineering designs in Italy. All the fabrication work was undertaken by N-KOM at the Erhama Bin Jaber Al Jalahma Shipyard at Ras Laffan Port.

The project provides for additional living quarters which will increase the capacity of the NFB Offshore living quarters by 90 personnel on board. When fully installed, this will allow for the catering of additional operational requirements.

The project work scope includes the construction of a fourlegged jacket and piles weighing about 2,200 tonnes. This will support the new living accommodation platform weighing around 2,800 tonnes and consisting of five decks, a fully equipped helideck, six bridge links to existing living quarters, services and utilities.

The project has recently achieved 2.5mn safe man-hours without any lost time incidents with a peak manpower rate of over 900 people. The next major milestone of the project is the safe transportation and installation of the 5,000 tonnes of structure to offshore NFB this month. The load out, sail away and installation activities will be carried out by subcontractor Heerema using their heavy lift vessel 'Aegir'.

"This project is not only a milestone achievement for Qatar but also an excellent testament to N-KOM's experience in handling offshore fabrication projects," according to Nakilat chief executive Abdullah Fadhalah al-Sulaiti.

The original NFB accommodation, installed in 1995, was designed for the operational needs of Qatargas Trains 1 and 2. The offshore accommodation expansion project was initiated to cater to the changes in the operational requirements following various expansion projects. Brownfield modifications will also be done on the existing living quarters and platform to properly integrate the new additional living quarters.

#### Meet the First (And Only) German City to Commit to 'Zero Waste'



Germans are world leaders in recycling, but one city has decided more needs to be done to protect the environment.

Kiel, a Baltic port known for its annual sailing regatta, last year became the first — and so far only — German municipality to sign up to the global "Zero Waste" initiative.

The ambitious goal of the city of nearly 250,000 is to eliminate waste, conserve and recover resources and not burn or bury them. It's a recognition that waste management, antiincineration, and reduced plastic production are vital to efforts to reduce the greenhouse gas emissions blamed for global warming.

"On the one hand, we are world champions at separating rubbish, but on the other the creation of plastic waste has not declined in any way, quite the contrary," said Andreas von der Heydt, head of Kiel's environmental protection agency.

"That means we really need to think about how we can avoid waste creation in the first place," he said, citing "quite shocking" data showing surging global waste production.

#### Waste Generation Is Rising Globally

The "Zero Waste" concept has been around for almost two decades, even if it has taken more time to catch on in Germany than other countries. The subject was on the agenda at the World Economy Forum in Davos this month and firms such as Adidas AG and Unilever, as well as asset management giant BlackRock Inc. are embracing it.

The European Union adopted a "Circular Economy Package" in December 2015 designed to push member states away from a "'take, make, use and throw away approach." Last year, the bloc said that in 2016 alone, activities such as repair, reuse or recycling gave a boost worth almost 147 billion euros (\$162 billion) to the economy and generated some 17.5 billion euros of investment.

The flow of materials accounts for more than half of emissions in OECD countries and reducing waste could help achieve the target of limiting temperature increases in the atmosphere to below 1.5 degrees Celsius, Zero Waste advocates say.

Other German cities are considering following Kiel's lead. Munich Mayer Dieter Reiter said in October he wants the Bavarian capital to pursue Zero Waste "in the not too distant future." Germany has a good deal of catching up to do. Around 300 municipalities in Italy, where Zero Waste Europe has its origins, have signed up, along with about 100 in Spain.

"We've all got those pictures of plastic-filled oceans in our heads," Reiter said. "That's why I wanted to know, as mayor, what we can do to in concrete terms to prevent waste from being generated in the first place."

A European Environment Agency report published last week said that there is "still a long way to go to turn Europe into a truly circular economy" and it will require "long-term involvement at all levels, from member states, regions and cities, to businesses and citizens."

#### Waste Generation

Germany generates more waste per capita than the EU average

Kiel, the capital of the region of Schleswig-Holstein, which is run by a coalition of Chancellor Angela Merkel's Christian Democrats, the Greens and the Free Democrats, is attempting to rise to the challenge, helped by federal government funding. Von der Heydt said a detailed action plan will be presented to the city administration for approval in April.

As well as trying to change people's consumption habits, measures will include efforts to reduce packaging in stores and promote second-hand markets for things like furniture, textiles and construction materials.

Kiel has benefited from a know-how sharing partnership with San Francisco, an early convert to the "Zero Waste" concept, and advice from Germany's Wuppertal Institute, which conducts research on sustainable development. Zero Waste Europe, which gets most of its funding from the EU, will oversee the city's progress.

Von der Heydt said Germany has been relatively slow in adopting Zero Waste policies probably because of a widespread belief that enough is already being done through existing recycling programs. At 68%, Germany has the highest rate of recycling for municipal waste, according to the most-recent data, well above the EU average of 46%.

#### Waste Recycled

Germany has the highest recycling rate in the EU

(Latest data available for municipal waste recycled and composted are for 2017)

"Many people believe that our waste system in Germany is already very well developed and that it's enough to maintain the status quo," Von der Heydt said by telephone. "The system we have is such that it's difficult to change tack in the short term."

Jack McQuibban, cities program coordinator at Brussels-based Zero Waste Europe, said that many administrations need waste to feed incinerators to generate heat or energy – and a profit – for the local community.

"We need to challenge this idea that incineration or zero waste for landfill is actually zero waste. It's not," McQuibban said. "We haven't been able to grow as much in Germany perhaps because of that and there's a real opportunity there."

- With assistance by Brian Parkin