



PETROCHEMICALS: NUMBERS

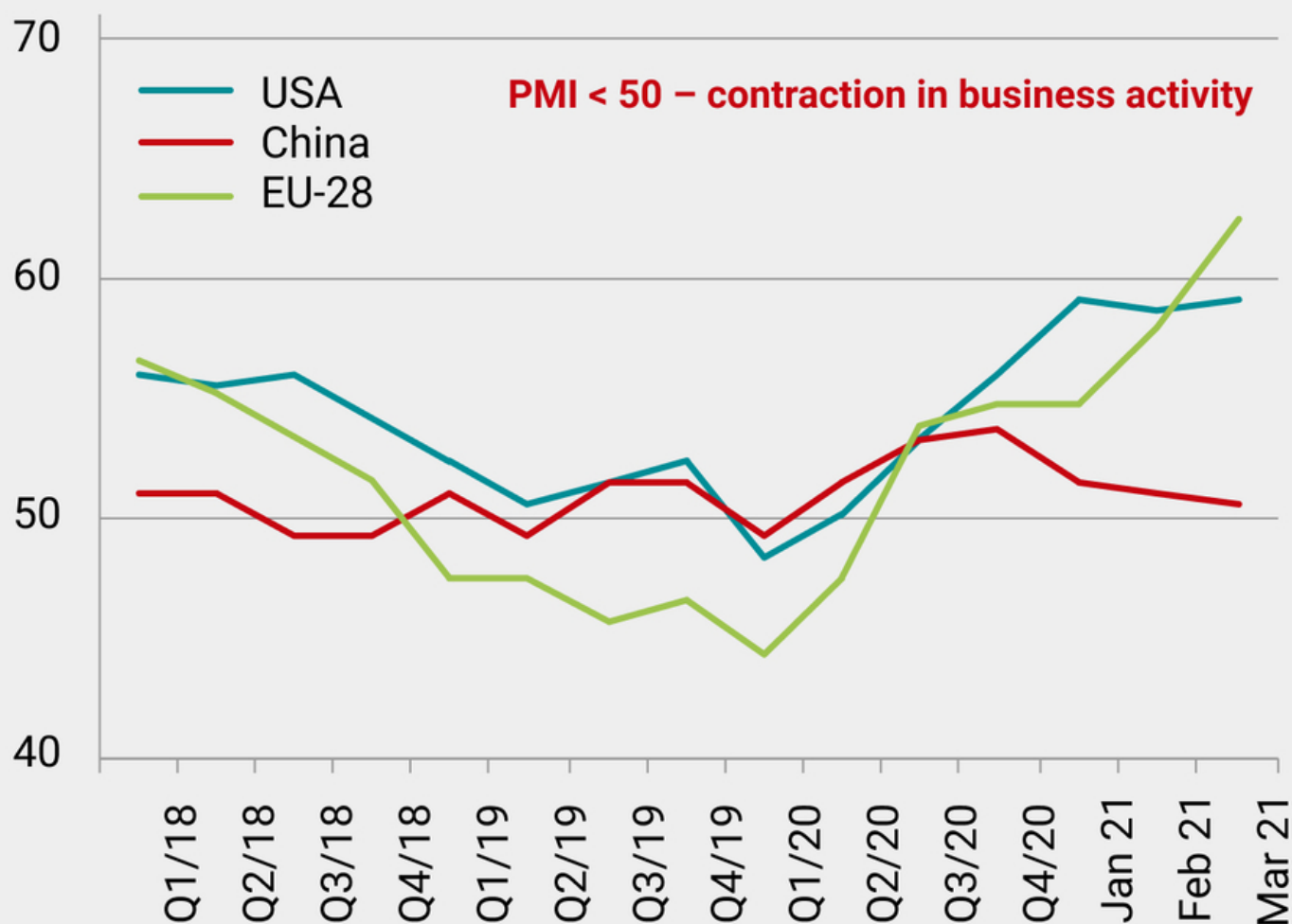
Why oil is net positive, IPEX is in the catbird seat, and rubber prices are gaining momentum: find out in the new report by experts from SIBUR.

PMI WAS ABOVE 50 DURING THE ENTIRE Q1

Business environment: focus on economic recovery

Despite the insufficient pace of vaccination in Q1 2021, analysts forecast that by mid-2021 50% of the population of Europe, US and UK will be vaccinated against coronavirus, and Asian and Middle East countries will achieve this level by early 2022. Such optimistic expectations were largely driving business activity in Europe and the US, where the Purchasing Managers' Index (PMI) was above 50 throughout the entire Q1 of this year. Measures taken by the US Congress that allocated \$1.9 trillion to support the economy have also influenced this business parameter. Of them, \$400 billion will be channeled to control the coronavirus situation, \$1 trillion—to support the population, and the rest—to support businesses.

PMI* (PURCHASING MANAGERS' INDEX)



* Manufacturing PMI, data shown for the last month of the quarter.

Source: Bloomberg

THE EXPECTATIONS OF THE GROWING DEMAND FOR OIL LED TO 40% HIKE OF THE AVERAGE BRENT PRICE VERSUS Q4 2020

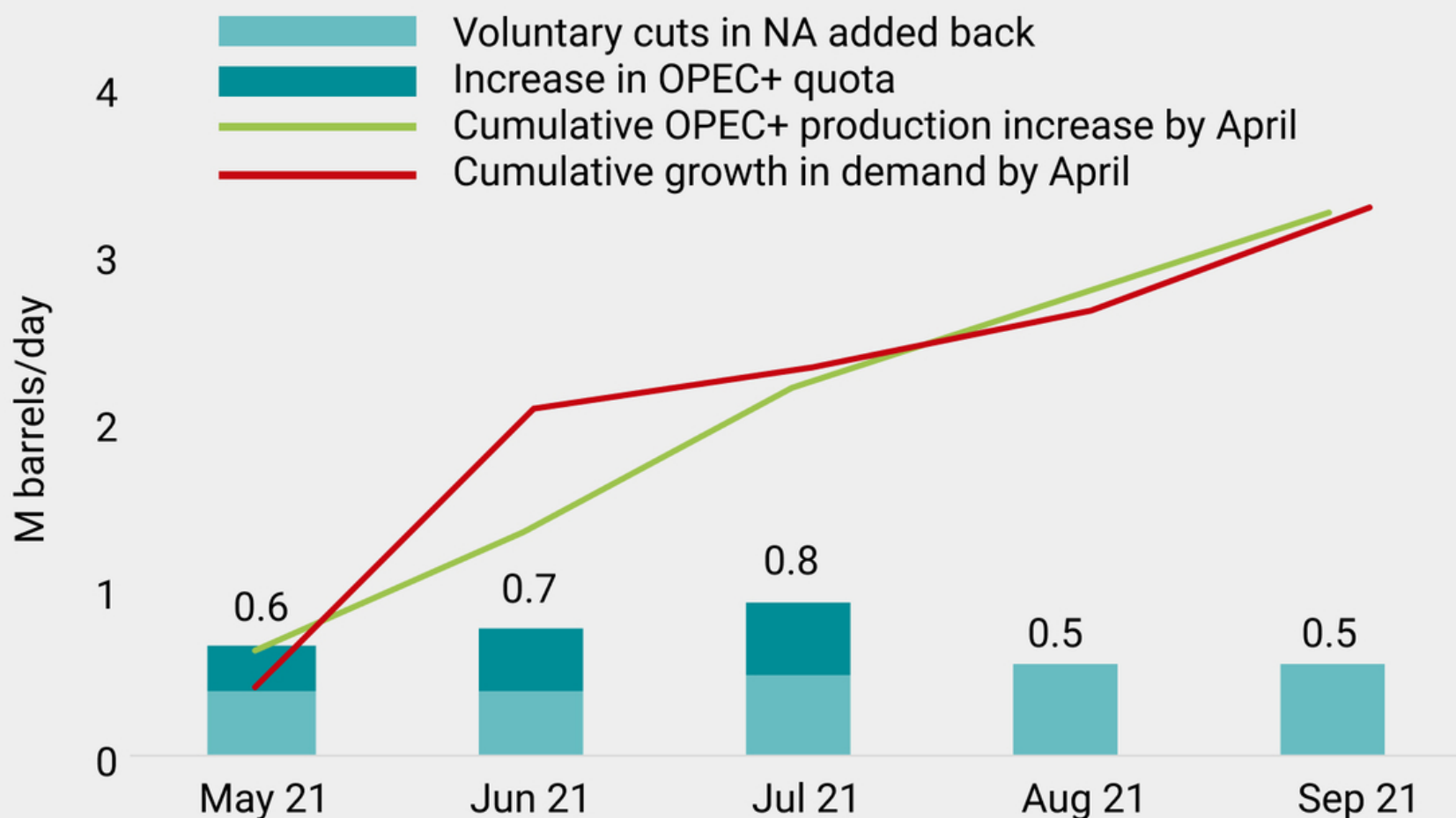
On July 4, Joe Biden intends to approve the plan to rebuild US infrastructure and transform the post-pandemic economy with the total budget of \$2.25 trillion. The petrochemical industry may become one of the plan's beneficiaries as \$174 million is intended to be invested into the EVs market.

As far as China's economy is concerned, industrial output in Q1 2021 grew by 24% as compared to the same period last year, and retail sales increased by 34%. The GDP of the Celestial Empire went up by 18.3%, which is the best historical indicator since 1992. We should not forget, however, about the low baseline effect (taking 2020 as the baseline).

Oil: 40% plus

In Q1, demand for oil stayed practically at the same level as in Q4 2020: 93 mbpd—this is 1 mbpd lower than produced. Tight rein of OPEC+ countries, voluntary oil production cut by Saudi Arabia (by 1 mbpd from February to April) plus expected restoration of demand resulted in 40% hike of the average Brent price versus Q4 2020. In the reviewed period it reached \$61/bbl. Growth continued in April and May, and in June the futures went above the technically crucial point of \$71/bbl and dashed toward the range of \$74-75/bbl. According to forecasts, by October OPEC+ countries will intensify oil production by 3.6 mbpd in an attempt to build up their market share and prevent others from doing it.

OPEC+ QUOTA INCREASE IN MAY–SEPTEMBER 2021



M barrels/day

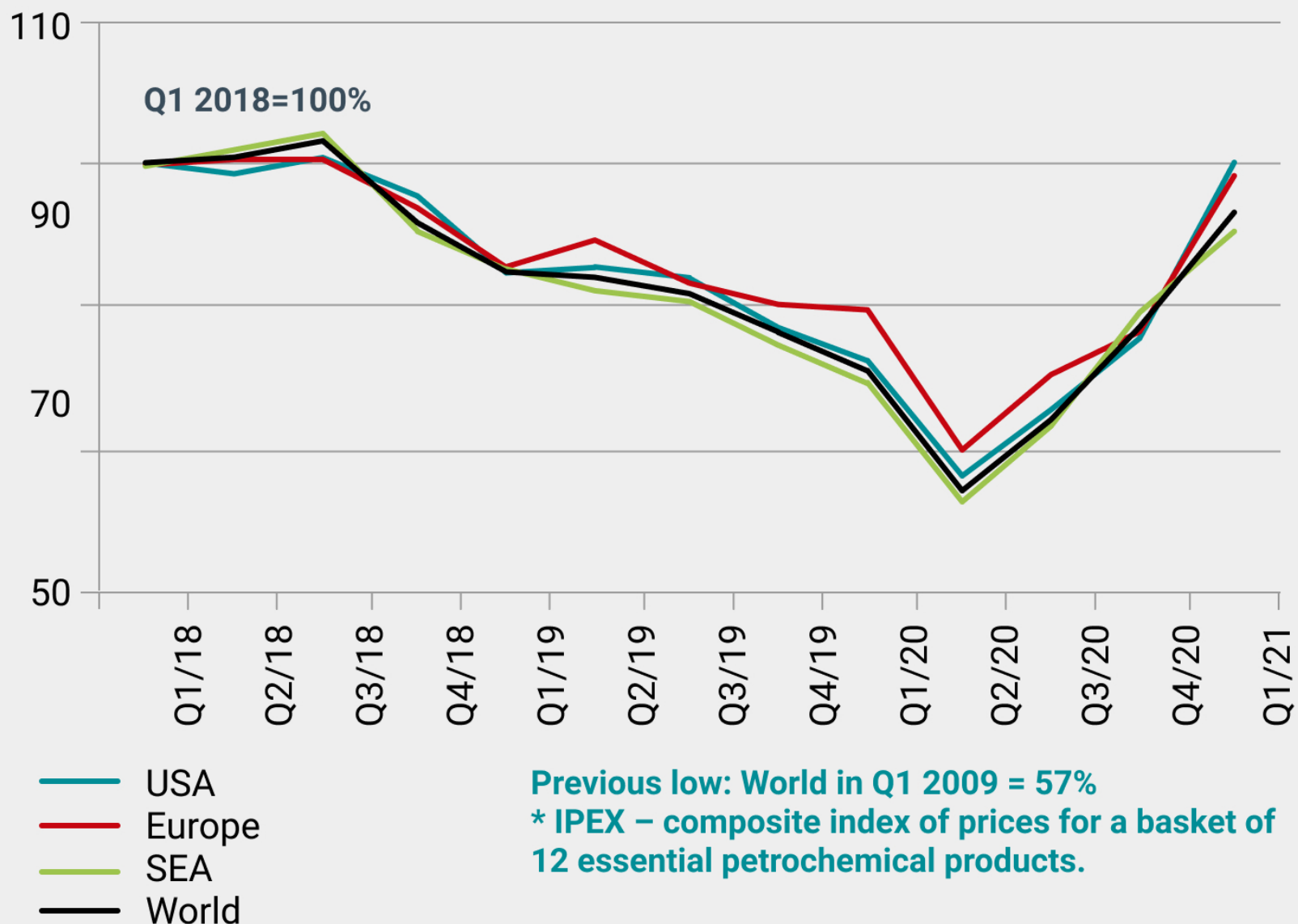
Source: Bloomberg

IPEX GREW BY 21 P.P. VERSUS THE SAME PERIOD THE YEAR BEFORE

IPEX is in the catbird seat

It bears reminding that in March 2020, there was a strong crumbling of prices of petrochemicals. In Q1 2021, the situation changed for the better. IPEX (the compound price index for 12 key petrochemical products in key regions of the world) grew by 21 p.p. over the same period last year. The main factor was Winter Storm Uri that broke out in the US in mid-February entailing a production cut-back. In the context of economic recovery it resulted in a local shortage of both feedstock and petrochemicals. The second factor was the shutdown of olefins capacities and suspension of ethylene and propylene production facilities in the US (*we wrote* (https://magazine.sibur.ru/ru/19/article/focus/sibur-analytics/?sphrase_id=12321) *about it in our previous update.* – *Ed. note*). The outcomes included a dramatic surge in prices of many petrochemicals to beat the US historical maximum, growth of quotations in Europe due to the decreased import volumes from the US, and a moderate decline in China, which is measurably self-sufficient in terms of key petrochemicals and has successfully diversified its imports composition.

IPEX PRICE INDICES* BY REGION (ICIS)



Source: ICIS

PET: the beginning of rehabilitation

An important event in the petrochemical market in Q1 was the start of the polyethylene terephthalate (PET) quotations recovery after their tumble in March 2020. There are two key reasons for that. The first one is the shortage of mono ethylene glycol (MEG) and terephthalic acid (TPA) in the US because of Winter Storm Uri. The second one is limited supply in Europe against the background of production shutdown and complications with PET supplies due to delayed shipments of feedstock, including the Suez Canal obstruction.

AN IMPORTANT EVENT IN THE PETROCHEMICAL MARKET IN Q1 WAS THE START OF THE PET QUOTATIONS RECOVERY AFTER THEIR TUMBLE IN MARCH 2020

Rubber: new cycle

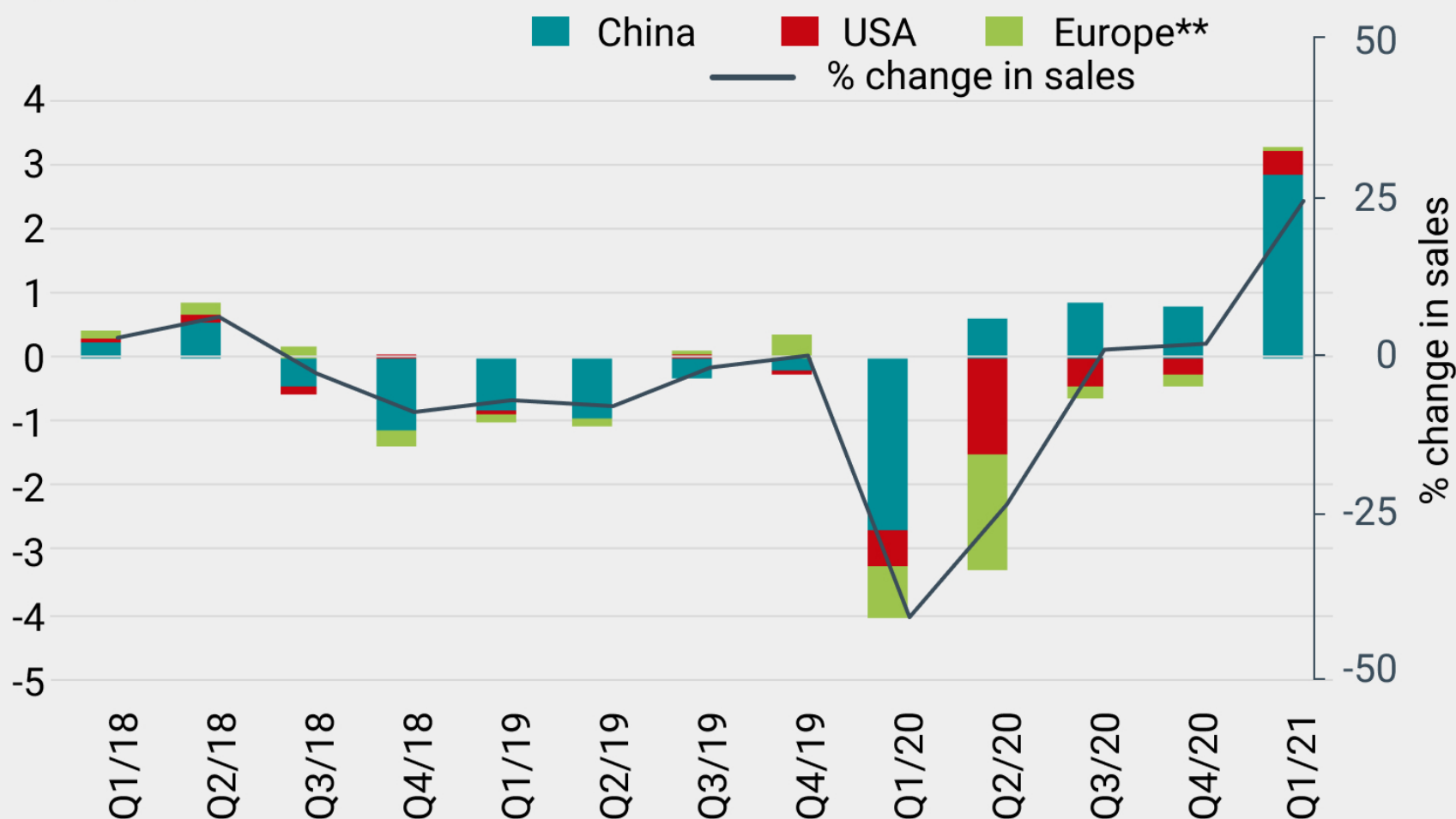
It is quite possible that the prices of natural rubber in Asia are currently at the beginning of a new growth cycle. There are strong reasons for this assumption. The first one is the shrinking supply in the region due to waterfloods and disease of the trees. The second one is the decline in the pace of planting new trees, which require about seven years to mature. As a result, China—the world's biggest

natural rubber consumer—decided to replenish its stock and started making major purchases, and tire manufacturers in the US, which refrained from buying feedstock during the quarantine, are also trying to replenish their stocks.

The demand for tires is growing

According to Michelin, the demand for individual sets of tires in Europe grew by 8% in Q1 vs. the previous quarter. It was partially underpinned by the producers' "threats" to raise prices. However, the main reason was different: the continuing replenishment of synthetic rubbers stock throughout the entire value chain after they were practically drained in 2020. The car market is also growing: in Europe by 3.2%, in China by 76% vs. the previous year.

REGIONAL CAR SALES* Y-O-Y M UNITS



* Sales in China, the USA and Europe account for more than 80% of global sales.

** Excluding the UK.

Sources: ACEA, CAAM, FRED St. Louis

IT IS QUITE POSSIBLE THAT THE PRICES OF NATURAL RUBBER IN ASIA ARE CURRENTLY AT THE BEGINNING OF A NEW GROWTH CYCLE. THERE ARE STRONG REASONS FOR THIS ASSUMPTION

PE: important news

There were several important events in the polyethylene (PE) market in Q1. The most important event for the European market was the launching of recycled PE and PP production under CirulenRevive brand in Europe. LyondellBasell brought these capacities on stream capturing its in-house plastic waste from its plant. Polymers are produced using the molecular recycling process.

An equally important event took place in Oman, where the plant started operating at full capacity with 440 kt annual output of LLDPE (linear low-density polyethylene), 440 kt annual output of HDPE (high-density polyethylene), and 300 kt annual output of PP (polypropylene). These products are to be supplied to the Asian market.

There is news about shifting the deadlines for launching the HDPE capacities expansion project (up to 300 kt annual output) from Q1 2021 to H2 2021 by Sinopec SK Wuhan. In addition, news came about Unilever and Amcor creating a production line in Europe for retort packaging with the characteristics of a tin can (the product may be preserved for a long time at room temperature), but 100% recyclable.



The start-up of CirulenRevive recycled polyethylene and polypropylene production in Europe was a landmark event for the European market. Production was launched by LyondellBasell.

ACCORDING TO MICHELIN, THE DEMAND FOR INDIVIDUAL SETS OF TIRES IN EUROPE GREW BY 8% IN Q1 VS. THE PREVIOUS QUARTER

As for the PE spot prices in Q1, they grew in North America and Europe resulting in the widening of spreads by 54% in the US and 61% in Europe against the preceding quarter (the price differential between PE and naphtha [the key feedstock] in Europe and between PE and ethane in the US). In Q1, the average LLDPE futures were traded in the US at \$1,300 /t, and by early June they grew up to \$1,550 /t on average. In Q1, the price spread for PE-ethane, calculated on the basis of LLDPE and ethane futures, grew drastically in the US up to \$1,150 /t (+65% versus the previous quarter). Similar levels were last observed only in 2014. By early June this spread continued to grow and reached \$1,360 /t.

The quotations growth resulted in significant marginality increase both in the US and in Europe. However, in China, on the contrary, it fell due to less noticeable growth of PE prices and a surge of feedstock prices comparable to the US and Europe. In Q1, the average LLDPE futures were traded in China at \$1,130 /t, and by early June they went down to \$1,000 /t. The average price spread PE–naphtha calculated on the basis of those futures made \$580 /t in China in Q1.

THERE WERE SEVERAL IMPORTANT EVENTS IN THE POLYETHYLENE (PE) MARKET. IMPORTANT EVENT WAS THE LAUNCHING RECYCLED PE AND PP PRODUCTION UNDER CIRULENREVIVE BRAND IN EUROPE

PP: Growth of propane dehydrogenation capacities

Polypropylene (PP) spot prices went up in Europe, China and the US similarly to PE prices. However, widening of the spread between the prices of finished products and the predominant feedstock (naphtha in Asia and Europe, propane in the US) was not observed equally in all the regions. In the US the spread widened by 76%, in Europe—by 69% quarter to quarter, and in China it decreased by 1% against the previous quarter. In Q1, the average PP futures were traded in the US at \$1,980 /t, and by early June they grew up to \$2,300 /t on average. This is the historic record-breaker. In Q1, PP prices in China demonstrated moderate growth versus the US and Europe, and after a temporary surge in April and May they are returning to the early March levels due to new production projects coming on stream.

The launching of new PP production projects will continue. For example, in the middle of 2021, two production facilities are expected to be launched in China simultaneously both using propane dehydrogenation process: Shandong Huifeng Haiyi Petrochemical with 250 kt annual output and Jinneng Technology with 900 kt annual output.