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steelMatters



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SA's steel consumption will miss the 5 million tonne target

After an exceptional recovery in steel consumption post Covid-19, apparent steel consumption was 5.1 million tonnes for the year in 2021. This was a 36% year-on-year increase in the country's steel use.

Included in the steel consumption however was the unexpected 1.6 million tonnes of imported primary steel products, equalling 31% of the country's overall steel consumption. The reason for the high import levels was ascribed to limited local supply to address pent-up demand caused by the pandemic. This was nevertheless the highest import to local supply ratio since the turn of the century.

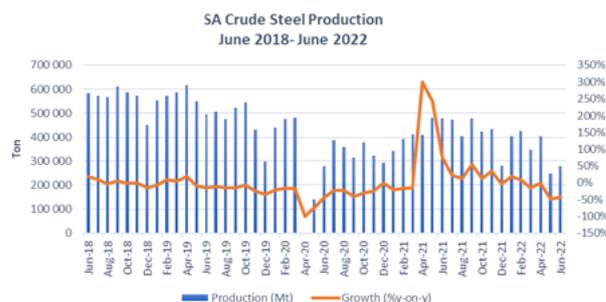
South Africa produced 276 500 Mt of crude steel in June 2022, a 42% decline compared to June 2021. The significant decline in crude steel production is attributed to the reline of the blast furnace at ArcelorMittal South Africa's Newcastle Works as well as intermittent stoppages at the company's other furnaces due to unavailability of raw materials.

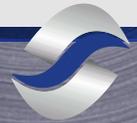
This came on the back of low crude steel production in May 2022 because of strike action.

Not that any of these events impacted steel supply significantly, as steel demand diminished during the first six months and the outlook for the remainder of the year does not indicate anything better. It is, however, envisaged that the reline will improve long steel production reliability and stability to enable improved delivery to the company's customers.

In the light of anticipated lower steel demand, we expect apparent steel consumption for 2022 to be around 4.7 million tonnes, a drop of 8,2% on last year's performance and still all indications are that 25% of the consumption will be imported.

So what stimulated steel demand in 2021 that is not present in the current demand mix? The consensus amongst steel users is that the import volume for 2021 included a 300 000 tonne inventory adjustment, caused by the supply chain drying up during the Covid shutdowns, and that the country's current consumption level is more reflective of the activity in the economy.



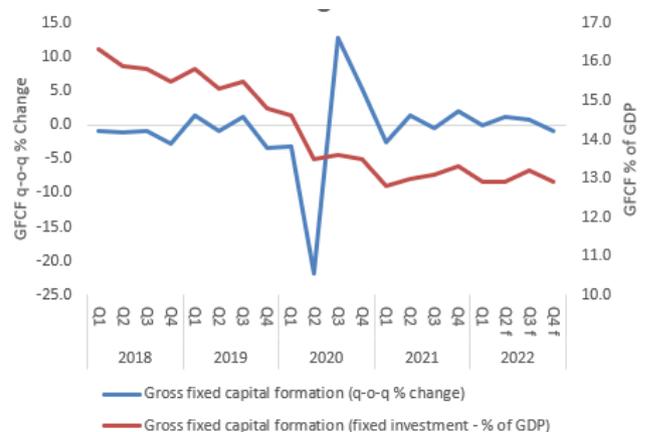
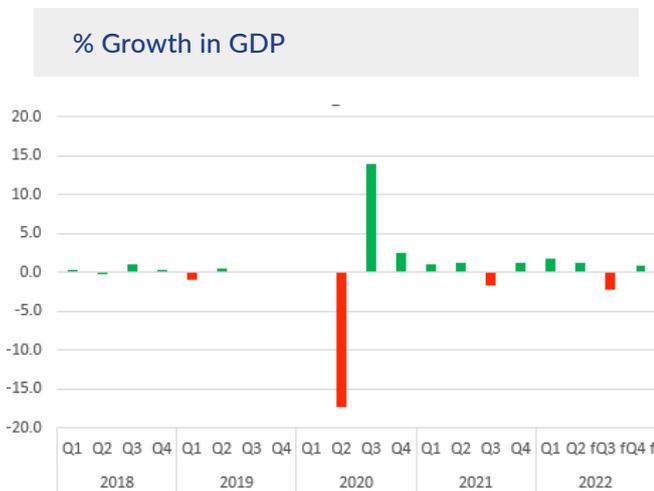


Steel consumption is unsustainable at current growth levels

Capital investment decisions are among the most important indicators used by an enterprise because they influence an enterprise's production, growth, shareholders' wealth, long-term prospective survival, competitive advantage, and overall economic welfare. Further, they also provide an indication of business confidence within an economic environment. Investment in non-current assets such as buildings, equipment and machinery increases the firm's production capacity to enhance the long-term profitability of the company, and is the most important indicator for steel consumption.

Real gross domestic product (measured by production) increased by 1,9% in the first quarter of 2022, following an increase of 1,4% in the fourth quarter of 2021. The manufacturing industry increased by 4,9% and contributed 0,6 of a percentage point to GDP growth.

Most of the steel demand drivers show mediocre performance

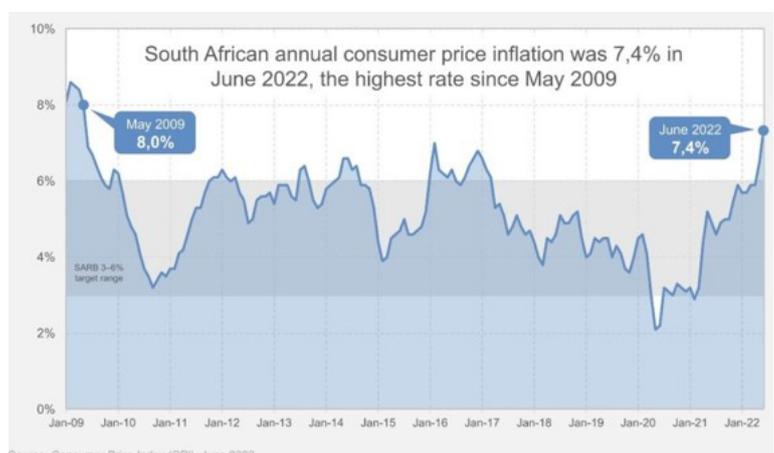


Inflation jumped to 7,4% in June from 6,5% in May 2022

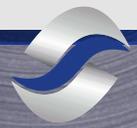
Mainly driven by rising transport and food prices, the 7.4% June rate is the highest reading since May 2009.

SAISI is concerned that this trajectory does not bode well for hard-pressed businesses in the basic iron and steel sector, which continue to face headwinds amid low levels of domestic apparent steel consumption demand and increasing operational costs (including labour, energy and logistic costs).

In particular, fuel prices were up by 45,3% in June, representing the largest annual increase for fuel since the current CPI series began in 2009. An inflationary environment will definitely add to the pressure local steel producers face, given its direct impact on consumer demand for goods. The high fuel price invariably adds to businesses' logistics costs, and this, in turn, negatively impacts the cost of doing business.



Source: Consumer Price Index (CPI), June 2022



Steel facts: Steel is the power behind renewable energy

Global and local headlines suggest that a global energy transition is underway. The domestic steel industry is making its mark in this transition. However, there are also opportunities to replace imports and drive localisation of steel, with governments announcing massive investments and strategic moves that embrace renewable energy.

Renewable energy technologies are set to play a key role in the ongoing efforts to limit the impacts of climate change. Renewable energy sources, especially solar, require significant amounts of steel in their manufacture. Each MW of new solar power requires 35 to 45 tonnes of steel, and wind power is in the region of 70 to 100 tonnes of steel.

Solar power

The solar market has two areas of application. The first is smaller-scale rooftop panels mounted on homes, museums, and stadiums. The second is utility-scale projects, which are larger consumers of steel.

In South Africa, solar power plants use solar photovoltaic (PV) and concentrator photovoltaics (CPV) technologies, all of which use steel in the structure for the mounting of the PV modules or mirrors. PV panels are mounted on a fixed or moving structure that allows the panel to be optimally oriented to the sun throughout the day. CPVs convert sunlight into electricity through PV cells made of semiconductor materials, such as silicon, which liquidises and generates steam to create electricity.

South African steelmakers are ready to supply steel to the required specifications and will expedite further development to speed up the delivery of renewables.

Wind Power

Steel is also a major contributor to wind energy, which can be grouped into onshore and new generation wind farms. Onshore wind farms are generally smaller scale and initially produce between 2 and 3 MW of power per turbine with the latest up to 5MW per turbine.

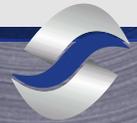
The turbines are mounted on towers which are either steel or concrete. A variety of steels is used for the foundations, the structural tower itself, and a range of specialised steels for the nacelle. New generation wind farms, built even further from shore, require a floating structure and produce 7 to 12 MW of energy.

Imports of complete and ready to assemble wind towers limit local steel producers' participation in establishing sustainable local supply chains. Notwithstanding poor local demand from the wind tower industry, substantial investment in steel product development ensures compliance to the required industry standards, enhancing the opportunity for import replacement and localisation.

Although Round 6 projects have not been finalised, the call for tenders by the Department of Mineral Resources and Energy was for the procurement of 1 600 MW of onshore wind energy, in accordance with the Integrated Resource Plan 2019 (IRP2019).

It is anticipated that there will soon be a requirement to supply heavier and longer normalised plate from the mill to comply with the specifications of the 120-meter-high towers. Steel is crucial to the transition to a more sustainable economic model, but, as a traditionally carbon-intensive industry, the challenge is also to lower the environmental impacts of this vital material. Wind turbine manufacturers and windfarm operators are looking for ways to decarbonise their procurement and help create 'cleaner' wind power. This will drive the demand for low emission steel which offers a way to significantly reduce the carbon footprint of a project.

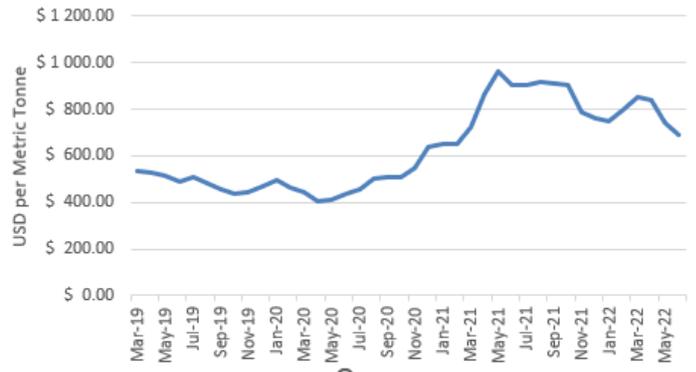
Therefore, for steel manufacturers to gain from future opportunities it will be important to increasingly integrate renewables into their production energy mix.



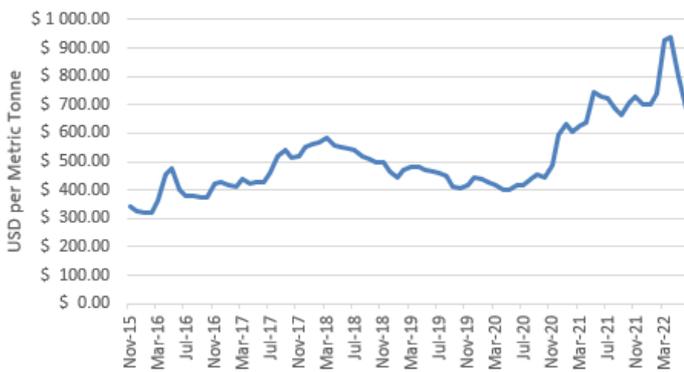
International steel prices

- According to the London Metal Exchange the cash settled futures on hot-rolled coil, fob China, decreased by 7,5% during June 2022 compared with May 2022 and that of rebar by 14,1%, with steel scrap decreasing by 22,7% during the same period.

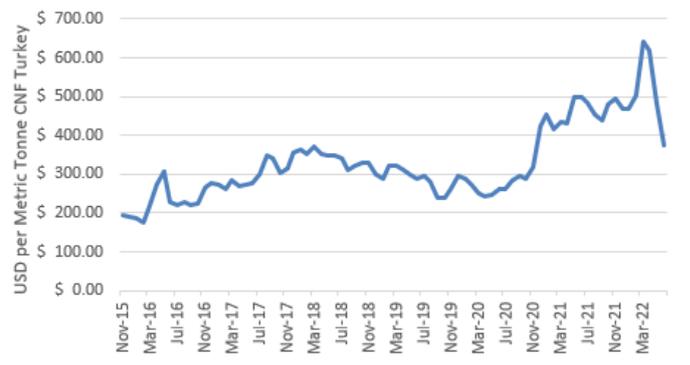
LME Steel HRC FOB China



LME Steel Rebar



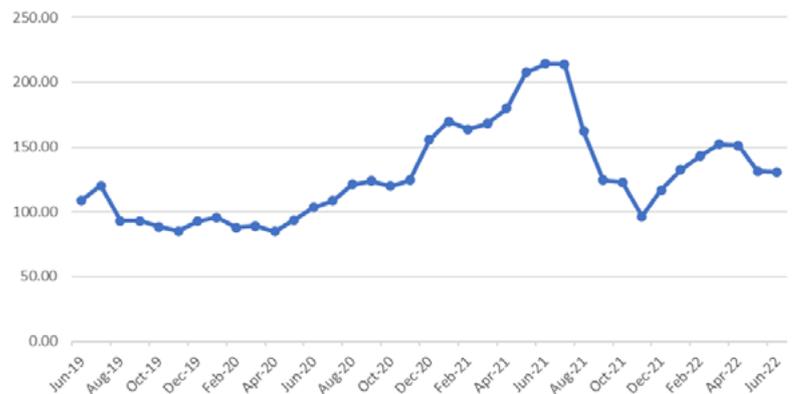
LME Steel Scrap

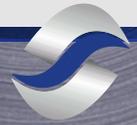


World iron ore price

According to the World Bank, cfr spot price on iron ore remained fairly stable during June 2022 when compared to the previous month.

Iron ore -CFR Spot





Closing the energy gap in sub-Saharan Africa — Article by Worldsteel

Expanding electricity access across sub-Saharan Africa is a mammoth engineering task that requires significant investment and a rethinking of what energy access means.

Viewed from near-earth orbit at night, the glittering hallmarks of industrialisation are visible across large swathes of the planet's surface. Almost everywhere the night sky is illuminated with steel-built lighting systems, marking the reach of technology and urbanisation.

However, several 'dark zones' remain, with sub-Saharan Africa representing the majority of the global population currently lacking access to power. Around 600 million people are without grid electricity here and the expansion of energy infrastructure is lagging behind other regions.

Reliant in places on localised, generator-based power that costs between three- and six-times what grid consumers pay, the impacts of this patchwork energy provision are far-reaching and fundamental.

Sub-Saharan Africa has a rapidly growing and urbanising population, but lack of access to electricity affects everything, from education with children being unable to read after the sun has gone down, to health with populations being unable to access life-saving vaccines due to lack of adequate refrigeration.

Confronting energy poverty is crucial to meeting the UN's sustainable development goals (SDGs) and that means expanding and diversifying electricity infrastructure and generation across the sub-Saharan region.

The power to change

Currently, the 48 countries that make up sub-Saharan Africa generate the same amount of power as Spain, despite having a combined population of 800 million. However, across the continent ambitious infrastructure projects are underway to tackle this issue.

The West African Power Pool (WAPP) is expanding grid access across the region and establishing a common electricity distribution system among member countries.

In the east, the Grand Ethiopian Renaissance Dam will add 6.45GW to the country's national grid.

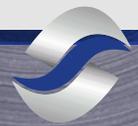
Farther south, Angola is currently building seven large solar farms which will use a million solar panels to generate 370MW of power which will reach both large cities and rural communities.

Projects of this nature require large-scale investment and access to materials and the region's need for steel is only set to grow as infrastructure expands. This is as true for traditional energy generation, such as natural gas, as it is for renewable sources. For the swiftly urbanising populations, these massive projects represent game changers that will expand safe affordable access to electricity, but for more remote locations, off-grid solutions are needed. Here's where small-scale renewable power can play a significant role.

Technological alternatives to grid-based power have been steadily lowering in cost, with solar-powered lighting, improved batteries and highly efficient LED lights also helping expand access.

Small-scale steel-built solar farms that can provide power for entire communities are also viable in a region on the so-called solar belt which spans the planet's equator. This bottom-up approach to energy generation, referred to as Utility 3.0, represents an alternative and complementary system to traditional public utility models and may represent the future of the global energy transition.

Whether it's region-spanning mega-projects or smallscale localised energy generation, steel-built technologies are going to play a vital role in transforming energy access in sub-Saharan Africa. This is crucial for tackling energy poverty, meeting the SDGs and transitioning



Trade—Primary steel products and articles of steel products

Primary steel product trade

According to data released by the South African Revenue Service:

Imports:

Imports of primary steel products (including intermediate, wire and rail) in the period June 2021 to May 2022 amount to 1 318 140 tonnes, a 2% increase on the 1 288 547 tonnes of primary carbon and alloy steel products imported during the previous 12-month period.

Notably, intermediate primary steel (including billets, blooms, slabs, ingots, and primary form) increased to 34 595 tonnes in the period June 2021 to May 2022, compared to the previous corresponding period.

Sections imports declined to 90 654 tonnes in the period June 2021 to May 2022, from 123 169 tonnes in the previous 12-month period.

We find a similar trend when comparing May 2020 and May 2021 with respect to imports of intermediate primary steel and sections.

Exports:

Exports of primary steel products (including intermediate, wire and rail) in the period June 2021 to May 2022 amount to 1 579 551 tonnes, a 26% increase compared with 1 252 134 tonnes of primary carbon and alloy steel products exported in the corresponding 12-month period.

The increase in exports was across the board with intermediate, sections, flat steel, wire, and rail increasing by 37%, 18%, 29%, and 13% respectively.

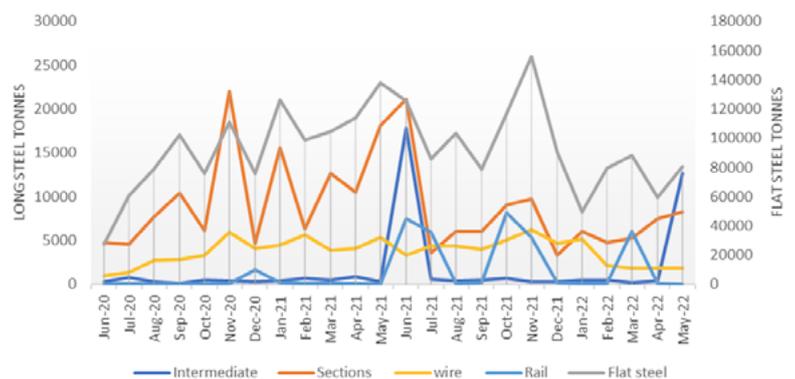
Articles of steel trade

Imports:

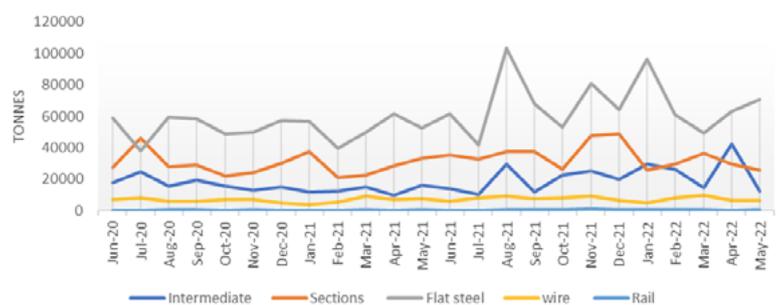
Imports of articles of iron and steel increased by 12% in the period June 2021 to May 2022 when compared to the previous corresponding period.

At the same time, exports of articles of iron and steel declined by 13% in the period June 2021 to May 2022 when compared to the previous corresponding period.

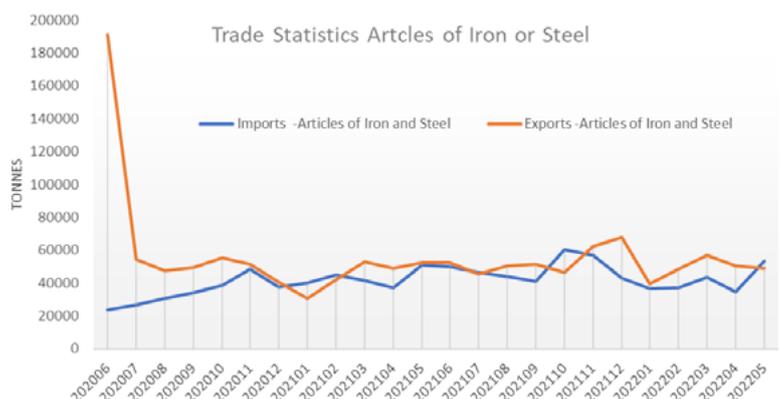
Imports: Primary Steel Products (June 2020- May 2022)



Export- Primary Steel Products June 2020-May 2022



Trade Statistics Articles of Iron or Steel





Steel demand drivers

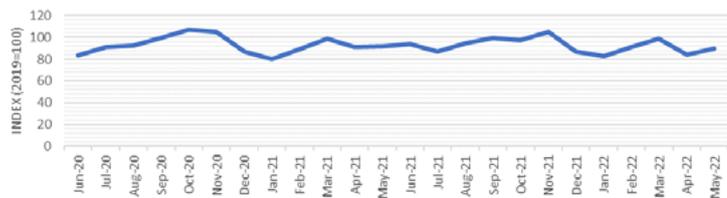
According to Stats SA:

Manufacturing production declined by 0.7% year-on-year, even though it showed a small increase in May 2022.

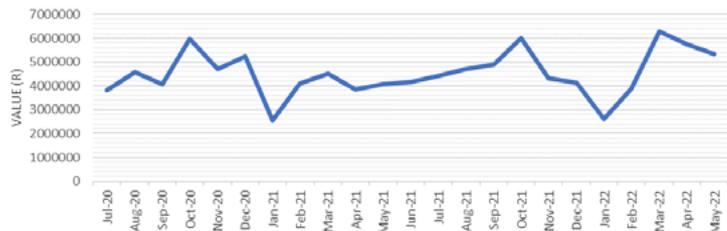
The value of recorded **buildings** completed (at constant 2019 prices) increased by 14% year-on-year but levelled off in the second quarter of 2022.

Mining production remained fairly stable increasing only 1% when compared with the previous year. Compared to April 2022, mining production increased by 10% in May 2022.

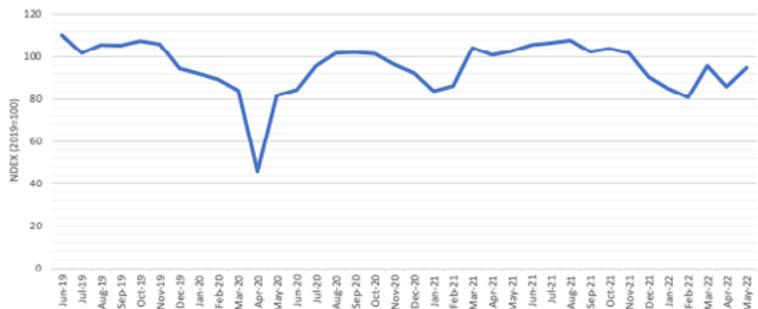
Manufacturing - Physical volume of Production



Buildings reported as completed June 2019- May 2022



Mining - Physical volume of production



Capacity utilisation

According to Stats SA, **capacity in the steel sector** has been maintained at around 75%, with the main contributors to under utilisation being insufficient demand and raw material availability.

Manufacturing divisions and major groups 1/		Weight	Year	Month	Utilisation	Reasons for under-utilisation					
						Total under-utilisation	Raw materials	Shortage of		Insufficient demand	Other
								Skilled	Semi- and unskilled		
Division: Basic iron and steel, non-ferrous metal products, metal products and machinery	19,47	2020	Feb	74,6	25,4	4,7	1,4	0,3	15,5	3,5	
			May	57,5	42,5	5,6	1,9	0,6	17,3	17,1	
			Aug	60,4	33,6	5,9	2,2	0,9	17,2	7,4	
			Nov	73,3	26,7	5,7	1,3	0,0	13,6	6,1	
			Year	68,0	32,1	5,5	1,7	0,5	15,9	8,5	
		2021	Feb	74,3	25,7	6,5	1,2	0,1	13,3	4,8	
			May	74,3	25,7	6,6	1,4	0,2	13,8	3,7	
			Aug	73,9	26,1	6,2	1,0	0,2	14,3	4,4	
			Nov	76,2	23,8	4,5	1,3	0,1	13,6	4,3	
			Year	74,7	25,3	6,0	1,2	0,2	13,8	4,3	
		2022	Feb	76,0	24,0	5,3	1,4	0,2	13,5	3,6	