Item 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISORS

NOT APPLICABLE

Item 2. OFFER STATISTICS AND EXPECTED TIMETABLE

NOT APPLICABLE

Item 3. KEY INFORMATION

RISK FACTORS

The Group's performance is mainly exposed to the volatility of the prices of crude oil and natural gas and to changing margins of oil derivative products such as, refined products and chemical products

The price of crude oil is the main driver of the Company's operating performance and cash flow, given the current size of Eni's Exploration & Production segment relative to other Company's business segments. The price of crude oil has a history of volatility because, like other commodities, it is influenced by the ups and downs in the economic cycle and several other macro-variables that are beyond management's control. Crude oil prices are mainly determined by the balance between global oil supplies and demand, the global levels of commercial inventories and producing countries' spare capacity. In the short-term, worldwide demand for crude oil is highly correlated to the macroeconomic cycle. A downturn in economic activity normally triggers lower global demand for crude oil and possibly a supply and/or an inventory build-up, because in the short-term producers are unable to respond to swings in demand quickly. Whenever global supplies of crude oil outstrip demand, crude oil prices weaken. Factors that can influence the global economic activity in the short-term and demand for crude oil include several, unpredictable events, like trends in the economic growth which shape crude oil demand in big consuming countries like China, India and the United States, financial crisis, geo-political crisis, local conflicts and wars, social instability, pandemic diseases, the flows of international commerce, trade disputes and governments' fiscal policies, among others. All these events could influence demands for crude oil. Long-term demands for crude oil is driven, on the positive side, by demographic growth, improving living standards and GDP (Gross Domestic Product) expansion; on the negative side, factors that in the long-term may significantly reduce demands for crude oil include availability of alternative sources of energy (e.g., nuclear and renewables), technological breakthroughs, shifts in consumer preferences, and finally measures and other initiatives adopted or planned by governments to tackle climate change and to curb carbon-dioxide emissions (CO_2 emissions), including stricter regulations and control on production and consumption of crude oil. Many governments and supranational institutions, with the USA and EU leading the way, have begun implementing policies to transition the economy towards a low-carbon model of development through various means and strategies, particularly by supporting development of renewable energies and the replacement of internal combustion engine vehicles with electric vehicles, including the possible adoption of tougher regulations on the use of hydrocarbons such as the taxation of CO_2 emissions. According to Eni's management, the push to reduce worldwide greenhouse gas emissions and an ongoing energy transition towards a low carbon economy are likely to materially affect the worldwide energy mix in the long-term and may lead to structural lower crude oil demands and prices. See the section dedicated to the discussion of climate-related risks below.

Notwithstanding the USA being the first oil producer in the world since the shale oil revolution of 2011, global oil supplies are controlled to a large degree by the Organization of the Petroleum Exporting Countries ("OPEC") cartel and its allied countries, like Russia and Kazakhstan, known as the OPEC+ alliance. Saudi Arabia plays a crucial role within the cartel, because it is estimated to hold huge amounts of reserves and a vast majority of worldwide spare production capacity. This explains why geopolitical developments in the Middle East and particularly in the Gulf area, like regional conflicts, acts of war, strikes, attacks, sabotages, and social and political tensions can have a big influence on crude oil prices. Furthermore, due to expectations of a slowdown in the growth rate of the US shale oil production or of a possible decline in the long-term due to capital discipline and industrial factors like a shrinking number of premium locations and high-yield wells, the OPEC+ alliance could exert an increasingly large influence over the crude oil market. Finally, sanctions imposed by the United States and the EU against certain producing countries may influence trends in crude oil prices.

To a lesser extent, extreme weather events, such as hurricanes in areas of highly concentrated production like the Gulf of Mexico, and operational issues at key petroleum infrastructure may have an impact on crude oil prices.

2022 marked one of the most volatile year in the history of crude oil prices, as measured by the number of days in a year in which the Brent crude oil benchmark moved by more than 5 $/bbl.

Immediately after the start of Russia’s military operations in Ukraine, the price of the Brent crude oil benchmark spiked, approaching its all-time high set in 2008 at approximately 140 $/bbl, then retreated once fears dissipated about possible disruptions in the flows of liquid hydrocarbons from Russia to international markets. Overall, crude oil prices remained well supported in the first half of the year. A favorable combination of macro and micro developments helped sustain prices in the 100-120 $/bbl range through the first half of 2022. The full reopening of Western economies and the post-pandemic recovery drove pent-up demand for all kinds of refined products with the last leg of end-markets, the airline sector, joining a rebound in consumption. International oil companies and listed shale producers in the USA remained reluctant to invest in new oil&gas fields and retained the financial discipline adopted in response to the Covid-19 crisis, allocating the extra-cash generated in the high oil-price environment to restructure the balance sheet and to boost shareholders’ returns. Pressured by investor demanding higher returns and by ESG considerations and, in the case of European players, by the need to allocate more funds to the businesses of the energy transition, oil&gas companies have continued to constrain the spending in the traditional upstream business, reinvesting in the business just a fraction of the cash flows to maintain production. According to market sources, global upstream’s capital expenditures in 2022 increased by about 20% from 2021 mainly in response to cost inflation. According to market intelligence, the current level of global upstream investment is insufficient to hold oil production steady at 100 million barrels/d, which is the needed level to match current global oil demand.

The alliance of petroleum producers OPEC+ has continued supporting the oil market by means of effective production management. The production performance exhibited a systematic trend of underdelivering against the stated production targets, raising doubts about the ability to retain an adequate spare capacity to meet eventual demand spikes. New consumption trends emerged in response to surging natural gas costs in Europe, like a resumption of the utilization of fuel oil to produce electricity (gas-to-oil switch). Finally, continuing uncertainties have been surrounding a possible return of Iran to comply with a revised version of the 2015 Iran nuclear deal, known as JCPOA, that would see Western countries lift the embargo on Iranian crude oil in exchange.

These price-supporting developments were partially mitigated by the effects of the zero-tolerance policy adopted by the Chinese authorities against the spread of the Covid-19 pandemic, which resulted in the continuing lockdowns of large cities and districts, thus dampening mobility and economic activities. Furthermore, to mitigate market imbalances and reduce the cost of fuels to American consumers, U.S. authorities executed an emergency plan to release 1 million bbl/day of crude oil from the national Strategic Petroleum Reserve for a six-month period, starting in May; other sales were arranged in the months of November and December. Other OECD governments coordinated by the IEA also arranged the release of their strategic reserves in response to the Russia-Ukraine crisis.

Crude oil prices peaked at the end of June. As developments in the second half of 2022 would demonstrate, the oil industry is a cyclical business, and our results of operations and cash flows are exposed to the risks of rapidly changing market conditions and of sudden and sharp price downturns due to the complexity and unpredictability of macro variables to which the oil business is subject. Among those variables, one of the most important, albeit difficult to be perceived, is the relatively low elasticity of supplies, which helps when demand rebounds, but backfires in case of a demand shock, leading to a quick build-up in supplies and a sell-off in prices. It is worth mentioning, based on our experience, that a small imbalance between supply and demand could cause a significant contraction in prices.

As a matter of fact, the trading environment has changed radically from the end of June 2022. The resurgence of inflationary pressures led by rising commodity prices forced the Federal Reserves (“Fed”) to change course in its monetary policy and to start a tightening cycle by raising interest rates and suspending its program of buying treasuries. Other central banks have followed the Fed’s new stance towards inflation. Rising interest rates and quantitative tightening are expected to dent economic activity and to reduce demand for crude oil. Furthermore, since the Fed has been moving at a faster pace than other central banks, it has driven the value of the US dollar that has appreciated significantly against all other currencies. A stronger dollar makes the dollar-denominated contracts for crude oil more expensive for holders of other currencies, thus weighing on demand.

Macroeconomic indicators started to weaken during the summer months amid the uncertainties associated with the Russia-Ukraine war, growing geopolitical risks and surging energy costs impacting industrial activity and consumers’ confidence, fueling fears of a prolonged slowdown or of a global recession and expectations of lower demand for crude oil. Furthermore, Russian production levels and exports towards Western markets held steady, defying expectations of a sharp drop. Those developments triggered a sharp correction in the price of Brent crude oil that lost approximately 40 $/bbl or 30% in just a quarter (from 125 $/bbl at the end of June 2022 to approximately 85 $/bbl by the end of September). In the final months of 2022, Brent prices seemed to stabilize due to the decision of the OPEC+ alliance to reduce the production quotas by about 2 million bbl/day from November 2022 until December 2023, resulting in an actual production cut of approximately half that amount considering that many cartel countries were producing well below their respective stated quotas. The market was also affected by uncertainties due to the entry into force of an EU ban on importation of seaborne Russian crude and the perceived risks of a reduction at Russian supplies, while China began relaxing the restrictive measures to contain the Covid-19 pandemic. Finally, G-7 nations, the EU and Australia agreed to impose a price cap on Russian crude at 60 $/bbl, banning Western insurers and shippers to provide services to support transportation of Russian crude oil unless the price cap is fulfilled. The downtrend in crude oil prices resumed in December, erasing all the gains made so far in 2022, with prices falling below 80 $/bbl. The downturn in crude oil prices in the second half of 2022 was largely driven by the liquidation of derivative positions by financial market participants driven by fears and uncertainties about possible broad-based macroeconomic issues, that pushed the forward prices curve back into contango in relation to short-term deliveries. However, the physical markets continued to signal steady demand trends as highlighted by continuing drawdowns of global inventories of crude oil, including global oil-on-water, with commercial stocks at OECD countries falling to about 4 billion barrels at the end of the year. That is one of the lowest levels for this time of year on record.

Overall, in 2022 global demand for crude oil continued recovering from the Covid-19 pandemic lows, increasing by approximately 2 million bbl/d to reach a level almost in line with 2019, at approximately 99.6 million bbl/d.

Looking forward, we believe crude oil prices to be negatively affected by continuing uncertainties among market participants about a possible slowdown or a recession of the global economy leading to a contraction in demand for crude oil, thus limiting the chance of a price recovery from the 2022 lows registered in December 2022. Furthermore, due to pressures from governments to increase output, international oil&gas companies have been announcing capital budget significantly higher than in 2022 and that could lead to faster growth in supplies than the market is currently anticipating.

Natural gas prices experienced a degree of volatility even higher than that of crude oil, especially in Europe (see risk factors below). Overall, natural gas prices rose sharply across all geographies due to slow additions of new supplies reflecting a slowdown in expenditures in past years and a demand recovery in the wake of an improved macroeconomic backdrop. Russia’s military invasion of Ukraine greatly compounded the already tight market fundamentals, triggering fears among market participants of possible disruptions in the natural gas flows from Russia to Europe. During summer months, prices reached all time-highs at spot markets in Europe driven by tight supplies, a progressive reduction in the flows of gas imported via pipeline from Russia amidst deteriorating political relationships with the EU block of nations (see below) and increased demand to replenish natural gas inventories in preparation of the heating season. In 2022, the spot price at the European reference hub Title Transfer Facility “TTF” averaged about 40 $/mmBTU, almost a threefold increase versus 2021. However, from the final months of 2022 and the beginning of 2023, market fundamentals have begun trending lower due to a recovery in US production of dry natural gas and a significant increase in exported volumes through LNG facilities, the wide adoption of energy-saving measures in Europe, a slowdown in industrial activities and finally a warmer-than usual winter season which has reduced heating consumption in the Western Hemisphere. In response to those trends, natural gas prices have been falling very rapidly: by the end of February 2023, the TTF European benchmark has plunged below 20 $/mmBTU, an eighteen-month low, down about 80% from the all-time high reached during the summer 2022. We believe this deteriorating trend in natural gas prices to affect significantly and adversely our results of operations and cash flows in 2023.

The volatility of hydrocarbons prices significantly affects the Group's financial performance. Lower hydrocarbon prices from one year to another negatively affect the Group's consolidated results of operations and cash flow; the opposite occurs in case of a rise in prices. This is because lower prices translate into lower revenues recognised in the Company's Exploration & Production segment at the time of the price change, whereas expenses in this segment are either fixed or less sensitive to changes in crude oil prices than revenues. With respect to price assumptions for 2023 (our Brent crude oil price forecast for 2023 is 85 $/bbl), we estimate our cash flow from operations to vary by approximately €0.13 billion for each one-dollar change in the price of the Brent crude oil applied to liquids and oil-linked gas and by approximately €0.13 billion for each one-dollar change in the spot price (1 $/mmbtu) of the European benchmark TTF spot price of natural gas compared to our assumption of 25-26 $/mmBTU for 2023. Eni is planning to gradually increase the share of natural gas production in its portfolio to reach 60% by 2030. Considering the higher volatility experienced in the natural gas market compared to the crude oil market, this long-term shift in the production mix could increase the variability of the Group's results of operations and cash flows.

The exposure of our cash flow from operations to the volatility of hydrocarbons prices and our expectations of lower hydrocarbons prices in 2023 compared to 2022 are due to increase our financial risk profile going forward, in light of the projected significant expected increase in the capital budget planned for 2023, which at about €9.5 billion is featuring a 15% rise compared to 2022.

Finally, movements in hydrocarbons prices significantly affect the reportable amount of production and proved reserves under our production sharing agreements ("PSAs"), which represented about 54% of our proved reserves as of end of 2022. The entitlement mechanism of PSAs foresees the Company is entitled to a portion of a field's reserves, the sale of which is intended to cover expenditures incurred by the Company to develop and operate the field. The higher the reference prices for Brent crude oil used to estimate Eni's proved reserves, the lower the number of barrels necessary to recover the same amount of expenditure, and vice versa. In 2022 our reported production and reserves were lowered by an estimated amount of respectively 5 KBOE/d and by 34 mmBOE due to an increased Brent reference price. Considering the current portfolio of oil&gas assets, the Company estimates its production to vary by about 0.5 KBOE/d for each one-dollar change in the price of the Brent crude oil.

Eni's Refining & Marketing and Chemical businesses are cyclical. Their results are impacted by trends in the supply and demand of oil products and plastic commodities, which are influenced by the macro-economic scenario and by product margins. Generally speaking, margins for refined and chemical products depend upon the speed at which products' prices adjust to reflect movements in oil prices.

All these risks may adversely and materially impact the Group's results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni's share.

Risks in connection with Russia's military aggression of Ukraine

A prolonged war could derail the post-pandemic macroeconomic recovery and that could reduce demands for hydrocarbons

Russia's military aggression of Ukraine in late February 2022 occurred against a backdrop of already tight crude oil and natural gas markets, particularly in Europe. The post-pandemic recovery leading to a pent-up demand for all kind of energy commodities and the suppression of supplies due to the financial discipline of oil&gas companies, and years of underinvestment in the industry drove a strong upcycle in commodity prices. Against this backdrop, the war triggered an energy crisis that hit severely businesses' balance sheet and the purchasing power of households across all of EU member states and the UK, souring mood and confidence. Increasingly high costs of natural gas and electricity have reignited inflationary pressures along the supply chain, forcing central banks to change course in their monetary policy. In response to Russia's aggression, the EU nations, the UK and the USA have adopted massive economic and financial sanctions to curb Russia's ability to fund the war and that is negatively affecting the economic activity. All these developments have resulted in a significant slowdown of the economy in the Euro-zone, in the UK, in the USA and in other areas.

A prolonged armed conflict, a possible escalation in the military action, an enlargement of the ongoing geopolitical crisis and a further tightening up of the economic sanctions against Russia represent elements of uncertainty that could eventually sap consumers' confidence and deter investment decisions, increasing the risks of a worldwide macroeconomic recession and with it, expectations of a reduction in hydrocarbons demands. This scenario would lead to lower commodity prices and would adversely and significantly affect our results of operations and cash flow, as well as business prospects, with a possible lower remuneration of our shareholders.

2022 was characterized by an unprecedented level of volatility in the European natural gas market due to the uncertainties triggered by the Russia-Ukraine crisis and continuing disruptions in the supplies from Russia. We expect prices to remain volatile in the foreseeable future and this may negatively affect our results of operations and cash flow.

In the aftermath of the start of the conflict, hydrocarbons prices rallied well above the peaks recorded in 2021, driven by the macro-uncertainty associated with the geopolitical situation, the possible fallout of the economic sanctions adopted by EU countries, the USA, and the UK against Russia and rising worries among market participants about possible disruptions in the hydrocarbons flows from Russia to international markets. While the Brent benchmark crude oil price initially approached its all-time highs at about 140 $/bbl and then retreated to below 80 $/bbl due to macroeconomic drivers, the natural gas market in Europe underwent far more complex trading conditions due to Europe’s dependency on Russian supplies. The Title Transfer Facility (TTF), the European benchmark of natural gas, which was trading at about 6 $/mmBTU at the beginning of 2021, increased exponentially throughout the year and approached the 90-dollar mark in August 2022, driven by strong fundamentals and rising uncertainties about supply risks, amidst deteriorating political relationships between the EU and Russia. Those latter materialized in the summer months as on several occasions the flows of natural gas from Russia to Europe were halted or reduced due to a dispute between Russia and European nations about the currency of settlement of the payments due by European operators. To make things worse, in September 2022, a massive leak occurred at the North-Stream pipeline, which is one of the main routes for transporting natural gas from Russia to Europe, forcing the operator to completely shut down the facility to execute major repairs. Natural gas flows from Russia to Italy experienced a significant reduction, too. With prices of natural gas increasing by several hundred percentage points against the backdrop of unprecedented volatility, traders like Eni faced large margin calls and high funding costs that increased pressure on their balance sheet and leverage.

The exceptionally large price movements resulted in sizeable daily or even intraday variation margin calls as derivatives contracts were marked to market. Furthermore, the elevated volatility prompted central counterparties and financial institutions to increase the initial margin substantially. As a matter of fact, to maintain derivatives positions, traders are required to pledge liquid assets as collateral for the settlement of the derivative transactions (initial margin). Materially higher natural gas prices triggered proportional increases in the initial margins (margin call), leading to substantially higher funding needs of traders and impairing their creditworthiness, as many traders saw their bond prices fall significantly. To cope with raising borrowing costs and surging financing needs, traders opted to reduce the volume of transactions in financial derivatives leading to substantially thinner markets. Trading volumes in both exchange markets and over-the-counter saw large declines. In response to much higher funding requirements than in the past to maintain derivatives positions, as well as due to much lower hedging opportunities because of thinner liquidity in the financial derivatives markets, the Company has opted to reduce our usual risk management activities and to retain a higher share of the commodity price risks unhedged, also considering risks of a possible default of supplies from our Russian counterparts (see below). Those developments may negatively affect our results of operations and cash flow in the GGP business that engages in trading large volumes of natural gas in the European markets. We believe this risk factor to continue affecting the business performance for the foreseeable future as trading conditions in the natural gas market are expected to remain challenging and volatile.

In response to our expectations of much more volatile markets going forward, we have increased our financial headroom by raising our reserves of cash on hand, increasing amounts of committed credit lines, and entering into repurchase agreements using our portfolio of securities as collateral, to cope with expected higher margins requirements and other possible financing needs. This could lead to higher finance expense and reduced investment opportunities.

Risks in connection with our presence in Russia and our commercial relationships with Russia’s State-owned companies.

Eni’s assets located in Russia are immaterial to the Group results. Our exploration projects in the Russian oil&gas sector have been suspended indefinitely, following the previous sanction regime, and the expenditures incurred in relation to those projects were written off in past reporting periods. Currently, we do not have booked hydrocarbons reserves in Russia.

The Group has announced the intention to divest its interest in the Blue Stream joint operations, which manages the gas pipeline that transports natural gas produced in Russia to Turkey through the Black Sea. Those volumes of gas are jointly marketed by Eni and Gazprom to the Turkish state-owned company Botas. This divestment is not expected to have a significant effect on the Group consolidated results and balance sheet; the book value of this asset was €90 million as of December 31, 2022.

In 2022 the Group ceased signing new supply contracts of Russian crude oil to supply its operated refineries and has incurred higher expenses and lower margins to replace the Russian crude oil. We do not plan to alter our course of action in 2023 and will continue to avoid supplying any quantity of Russian crude for processing at our refineries or otherwise to trade any volume of Russian crude oil or refined products. In 2022 the purchase of crude oil from Russia represented 5% of the total volumes of crudes traded by Eni to support its operated refineries; those volumes were supplied before the start of the war.

Finally, Russian oil&gas companies are currently joint operators in certain upstream projects where we have a working interest. Every possible decision about the participation of the Russian counterparts to those projects are in the power of the state-owned companies of the host countries where such projects are located.

The most important transactions that involve Russian counterparts relate to the purchase of natural gas from the Russian state-owned company Gazprom and its affiliates, based on long-term supply contracts with take-or-pay clauses. In the past, the volumes supplied from Russia have represented a material amount of our global portfolio of natural gas supplies (see table “Natural gas supply” in Item 4 – Global Gas & LNG Portfolio, providing information about the last three-year period). In 2022, we significantly reduced natural gas supplies from Russia to 28% (down from 43% in 2021). We intend to continue our effort to substitute Russian-origin gas in our portfolio, with the aim to continue to reduce such dependence in the shortest possible timeframe.

Further, although we have access to increased supplies from other geographies in our portfolio by means of developing our existing reserves and we are currently able to import larger volumes from producing countries under existing contracts, should supplies from non-Russian sources be insufficient to compensate for lower quantities purchased from Gazprom and its affiliated companies, we may suffer adverse effects which we cannot currently estimate or quantify, but could be material.

To cope with the emerging risk of a possible shortfall of natural gas supplies from Russia and with a view to reducing our contractual selling obligations going forward, the business has adopted a cautious stance in signing new selling contracts for the current thermal year (October 2022 – September 2023) and in doing so, it has been missing out on better selling margin opportunities than what can be earned by selling natural gas at the spot markets.

The process of substituting Russian-origin gas may entail operational and financial risks which may be significant.

Those development could negatively and significantly affect the performance of the GGP business.

***In 2022 the GGP business delivered a significant performance due to the continuing optimizations of the portfolio of assets, amidst exceptional market conditions due to the war situation. There is no guarantee that a similar level of performance can be sustained in the near future*.**

In 2022, the profitability in the GGP business was underpinned by management’s ability to leverage the assets portfolio (long-term natural gas purchase contracts, transport capacity booked at the main European pipelines, access to storage capacity, thermoelectric plants, presence in the LNG business) to drive sales opportunities and margin improvements on the back of favorable market trends. There is no guarantee that a similar level of performance can be reiterated next year or in the medium term due to rapidly changing market conditions and unpredictable developments in the European natural gas markets. The Company’s decision to reduce its hedging activity in response to risks of undersupplies from its Russian counterparts has also increased the business exposure to the commodity risk.

***In response to the current energy crisis, EU member states have been implementing measures intended to curb the consumption of electricity and to contain the cost of energy to businesses and households, and that could negatively affect demand for natural gas and electricity and the profitability of our operations*.**

Russia’s military invasion of Ukraine triggered a relevant deterioration in the fundamentals of the European natural gas and electricity sectors due to European’ dependency on Russian natural gas supplies and actual reductions in the volumes of natural gas available to Europe. This has driven material increases in the price of natural gas and in the cost of electricity that is indexed to natural gas. High energy costs have put enormous pressure on the balance sheet of businesses, also in the energy sector, forcing many industrial undertakings to halt production or to shut down plants indefinitely, while several energy wholesalers and retailers unable to manage volatility have gone bankrupt or have been bailed out by governments. Many businesses highly dependent on energy consumption have been assessing whether to relocate their operations overseas to reduce the costs of energy inputs. Households have seen their energy bills increase manyfold, resulting in social anger and protest. The economic and social ramifications of this crisis have yet to be appreciated. In response to the crisis, EU member states have been implementing several initiatives intended to reduce electricity consumptions by imposing mandated saving targets to each of the member states and to reduce the cost of electricity by introducing a mandatory cap on market revenues of electricity producers from certain sources (e.g. photovoltaic and wind power) and the possibility for the member states to temporarily set electricity prices below production costs. For example, the EU Commission’s REPowerEU plan has set a strategic goal of ceasing the EU’s dependency on Russia’s natural gas well before 2030, through various measures including supplies diversification, development of renewable energies and energy savings. Those measures could reduce electricity consumption and hence demands for natural gas and that could significantly and adversely affect the results of operations and cash flow of our E&P and GGP businesses. The mandated cap on market revenues of electricity produced at photovoltaic and wind facilities will limit the profitability upside in our business of renewable energies. Governments may introduce administrative measures intended to limit the ability of retail operators in the natural gas and electricity markets to pass increases in the cost of supplies onto final customers and that could significantly and adversely affect the results of operations and cash flow at our retail subsidiary Plenitude. Finally, governments across Europe and in the UK have imposed windfall taxes on the profits of energy companies to raise funds to compensate businesses and households for the surging energy costs and this trend has negatively affected our results of operations and cash flow (see below).

There is strong competition worldwide, both within the oil industry and with other industries, to supply energy and petroleum products to the industrial, commercial, and residential energy markets.

The current competitive environment in which Eni operates is characterized by volatile prices and margins of energy commodities, limited product differentiation and complex relationships with state-owned companies and national agencies of the countries where hydrocarbons reserves are located to obtain mineral rights. As commodity prices are beyond the Company’s control, Eni’s ability to remain competitive and profitable in this environment requires continuous focus on technological innovation, the achievement of efficiencies in operating costs, effective management of capital resources and the ability to provide valuable services to energy buyers. It also depends on Eni’s ability to gain access to new investment opportunities.

In the Exploration & Production segment, Eni is facing competition from both international and state-owned oil companies for obtaining exploration and development rights and developing and applying new technologies to maximize hydrocarbon recovery. Because of the larger size of some other international oil companies, Eni may face a competitive disadvantage when bidding for large scale or capital intensive projects and it may be exposed to the risk of obtaining lower cost savings in a deflationary environment compared to its larger competitors given its potentially smaller market power with respect to suppliers, whereas in case of rising input costs due to a shortage of materials, labour and other productive factors Eni may experience higher pressure from its suppliers to raise the price of goods and services to the Company compared to Eni’s larger competitors. Due to those competitive pressures, Eni may fail to obtain new exploration and development acreage, to apply and develop new technologies and to control costs. The COVID-19 pandemic has caused exploration & production companies to significantly reduce their capital investment in response to lower cash flows from operations and to focus on the more profitable and scenario-resilient projects. The Company believes that this development will be long-lasting and likely drive increased competition among players to gain access to relatively cheaper reserves (onshore vs. offshore; proven areas vs. unexplored areas).

In the Global Gas & LNG Portfolio business, Eni is facing strong competition in the European wholesale markets to sell gas to industrial customers, the thermoelectric sector and retail companies from other gas wholesalers, upstream companies, traders and other players. The results of Eni's wholesale gas business are affected by global and regional dynamics of gas demand and supplies, as well as by the constraints of its portfolio of long-term, take-or-pay supply, whereby the Company is obligated to offtake minimum annual volumes of gas or in case of failure to pay the corresponding purchase price (see below). Due to the competitive nature of the business, sales margins tend to be small. We believe wholesale margins of gas will be negatively affected by competitive pressures and by the expected growth of renewable sources of energy that will replace natural gas in supplying electricity to European markets in the medium term. Also, the energy crisis of 2022 stimulated energy saving measures and a curtailment of consumption among businesses and households and by public administrations and that could lead to long-term natural gas demand destruction, intensifying competition.

The results of the LNG business are mainly influenced by the global balance between demand and supplies, considering the higher level of flexibility of LNG with respect to gas delivered via pipeline.

In its Refining & Marketing segment, Eni is facing competition both in the refining business and in the retail marketing of fuels.

Eni's refining business has been negatively affected for many years by structural headwinds due to muted trends in the European demand for fuels, refining overcapacity and continued competitive pressure from players in the Middle East, the United States and Far East Asia. Those competitors can leverage on larger plant scale and cost economies, availability of cheaper feedstock and lower energy expenses. Those unfavorable competitive dynamics were exacerbated by the economic downturn triggered by the COVID-19 pandemic in 2020, whose effects rippled throughout 2021 due to the gradual lifting of restrictions to mobility and air travel. In 2022, the weak underlying fundamentals of the sector were superseded by a widespread recovery in demands for refined products also helped by a recovery in the airline sector, and by market disruptions caused by the Russia-Ukraine war which negatively affected the flows of products from Russia, reducing particularly the supplies of gasoil, and other market dislocations. The trading environment was very volatile with refining margins hitting historic highs on some occasions (for example in the second quarter and at the start of the Autumn months) and then retreating.

Overall, in 2022 the Company's own internal performance measure to gauge the profitability of its refineries, the SERM, averaged about 8 $/bbl, a noteworthy increase compared to 2021 when the margin was negative at minus 0.9 $/bbl, and one of the best values in several years. However, due to the start-up of new refining capacity in Middle East and other geographies, management does not expect that level of refining margin to be sustainable in the future. Furthermore, management expects demand for oil-based refined products in Europe to be negatively affected by the market penetration of EV and a growth in biofuels. Based on those assumptions, despite the strong results of the refining business in 2022, management did not record any reversal of previously recognized impairment losses and confirmed the full write-off of the Company's oil-based, operated refineries. Furthermore, management assessed that certain refinery production lines that were shut down during the COVID-19 downturn would not restart under management's planning assumptions and forecast trading environment. As a consequence of that, management recognized a provision to decommission such product lines, for an amount of about €300 million.

Furthermore, refinery's operating expenses were negatively affected by higher costs for the purchase of emission allowances to comply with the requirements of the European ETS, which reached all-time highs due to a combination of macroeconomic recovery which drove industrial production and rising coal consumption to fire power generation due to a shortage of gas supplies and cost competitiveness. The 2022 cost for emission allowance was on average 80 €/ton, up by about 50% from 2021 (53.4 €/ton). We believe costs for the purchase of CO_2 allowances to continue trending higher in the foreseeable future also due to a possible revision of the EU regulation that is anticipated to reduce free allowances.

Eni’s Chemical business has been facing for years strong competition from well-established international players and state-owned petrochemical companies, particularly in the most commoditized market segments such as the production of basic petrochemical products (like polyethylene), where demand is a function of macroeconomic growth. Many of these competitors based in the Far East and the Middle East have been able to benefit from cost economies due to larger plant scale, wide geographic moat, availability of cheap feedstock and proximity to end-markets. Excess worldwide capacity of petrochemical commodities has also fueled competition in this business. Furthermore, petrochemical producers based in the United States have regained market share, as their cost structure has become competitive due to the availability of cheap feedstock deriving from the production of domestic shale gas from which ethane is derived, which is a cheaper raw material to produce ethylene than the oil-based feedstock utilized by Eni’s petrochemical subsidiaries. Finally, it is likely that rising public concern about climate change and the preservation of the environment will negatively affect the consumption of single-use plastics going forward. In 2021 those challenging business fundamentals were mitigated by the post-pandemic economic recovery and supply chain issues, which alleviated competitive issues. In 2022, the Eni’s chemicals business reverted to its historical trend of underperformance driven by a recovery in the export of cheap product flows from the Middle and Far East, the entry into service of new capacity and surging costs of plant utilities indexed to the price of natural gas. An uncertain macroeconomic outlook also weighed on the purchase decision of distributors and resellers who opted for destocking their inventories. Management believes the profitability prospects of the chemicals business to remain weak in the foreseeable future and as a consequence the carrying amounts of the Company’s chemicals plants were marked down to account for lower recoverable values with an impairment loss of €385 million.

Plenitude and Power business engages in the supply of gas and electricity to customers in the retail markets mainly in Italy, France, Spain, and other countries in Europe. Customers include households, large residential accounts (hospitals, schools, public administration buildings, offices) and small and medium-sized businesses. The retail market is characterized by strong competition among selling companies which mainly compete in terms of pricing and the ability to bundle valuable services with the supply of the energy commodity. In this segment, competition has intensified in recent years due to the progressive opening of the market and the ability of residential customers to switch smoothly from one supplier to another.

Eni also engages in the business of producing gas-fired electricity that is largely sold in the wholesale market and in the dispatching services market. As far as the wholesale market is concerned, margins of electricity production from gas-fired plants (“Clean Spark Spread” or “CSS”) have experienced some fluctuations in recent years due to the volatility of costs of production, as well as to increasing competition from renewables. In 2022, the business profitability was driven by a non-recurring increase in revenues from the dispatching services market. Looking forward, management is assuming service revenues to normalize.

In case the Company is unable to effectively manage the above described competitive risks, which may increase in case of an economic slowdown or a recession weaker-than anticipated recovery in the post-pandemic economy or in a worst case scenario of the imposition by governments of new lockdown measures and other restrictions in response to the pandemic, the Group’s future results of operations, cash flow, liquidity, business prospects, financial condition, shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s shares may be adversely and significantly affected.

The Group is exposed to significant safety, security, environmental and other operational risk in connection with the nature of its operations

The Group engages in the exploration and production of oil and natural gas, processing, transportation and refining of crude oil, transport of natural gas, storage and distribution of petroleum products and the production of base chemicals, plastics, and elastomers. By their nature, the Group’s operations expose Eni to a wide range of significant health, safety, security, and environmental risks. Technical faults, malfunctioning of plants, equipment and facilities, control systems failure, human errors, acts of sabotage, attacks, loss of containment and climate-related hazards can trigger adverse consequences such as explosions, blow-outs, fires, oil and gas spills from wells, pipeline and tankers, release of contaminants and pollutants in the air, ground and water, toxic emissions, and other negative events. The magnitude of these risks is influenced by the geographic range, operational diversity, and technical complexity of Eni’s activities. Eni’s future results of operations, cash flow and liquidity depend on its ability to identify and address the risks and hazards inherent to operating in those industries.

In the Exploration & Production segment, Eni faces natural hazards and other operational risks including those relating to the physical and geological characteristics of oil and natural gas fields. These include the risks of eruptions of crude oil or of natural gas, discovery of hydrocarbon pockets with abnormal pressure, crumbling of well openings, oil spills, gas leaks, risks of blowout, fire or explosion and risks of earthquake in connection with drilling activities.

Eni’s activities in the Refining & Marketing and Chemical segment entail health, safety and environmental risks related to the handling, transformation and distribution of oil, oil products and certain petrochemical products. These risks can arise from the intrinsic characteristics and the overall lifecycle of the products manufactured and the raw materials used in the manufacturing process, such as oil-based feedstock, catalysts, additives, and monomer feedstock. These risks comprise flammability, toxicity, long-term environmental impact such as greenhouse gas emissions and risks of various forms of pollution and contamination of the soil and the groundwater, emissions and discharges resulting from their use and from recycling or disposing of materials and wastes at the end of their useful life.

All of Eni’s segments of operations involve, to varying degrees, the transportation of hydrocarbons. Risks in transportation activities depend on several factors and variables, including the hazardous nature of the products transported due to their flammability and toxicity, the transportation methods utilized (pipelines, shipping, river freight, rail, road and gas distribution networks), the volumes involved and the sensitivity of the regions through which the transport passes (quality of infrastructure, population density, environmental considerations). All modes of transportation of hydrocarbons are particularly susceptible to risks of blowout, fire and loss of containment and, given that normally high volumes are involved, could present significant risks to people, the environment and the property.

Eni has material offshore operations relating to the exploration and production of hydrocarbons. In 2022, approximately 71% of Eni’s total oil and gas production for the year derived from offshore fields, mainly in Egypt, Norway, Libya, Angola, Congo, Indonesia, the United Arab Emirates, Kazakhstan, the United States, Venezuela and the United Kingdom. Offshore operations in the oil and gas industry are inherently riskier than onshore activities. Offshore accidents and spills could cause damage of catastrophic proportions to the ecosystem and to communities’ health and security due to the apparent difficulties in handling hydrocarbons containment in the sea, pollution, poisoning of water and organisms, length and complexity of cleaning operations and other factors. Furthermore, offshore operations are subject to marine risks, including storms and other adverse weather conditions and perils of vessel collisions, which may cause material adverse effects on the Group’s operations and the ecosystem.

The Company has invested and will continue to invest significant financial resources to continuously upgrade the methods and systems for safeguarding the reliability of its plants, production facilities, vessels, transport and storage infrastructures, the safety and the health of its employees, contractors, local communities, and the environment, to prevent risks, to comply with applicable laws and policies and to respond to and learn from unforeseen incidents. Eni seeks to manage these operational risks by carefully designing and building facilities, including wells, industrial complexes, plants and equipment, pipelines, storage sites and other facilities, and managing its operations in a safe and reliable manner and in compliance with all applicable rules and regulations, as well as by applying the best available techniques in the marketplace. However, these measures may ultimately not be completely successful in preventing and/or altogether eliminating risks of adverse events. Failure to properly manage these risks as well as accidental events like human errors, unexpected system failure, sabotages, cyberattacks or other unexpected drivers could cause oil spills, blowouts, fire, release of toxic gas and pollutants into the atmosphere or the environment or in underground water and other incidents, all of which could lead to loss of life, damage to properties, environmental pollution, legal liabilities and/or damage claims and consequently a disruption in operations and potential economic losses that could have a material and adverse effect on the Group’s results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s shares.

Eni also faces risks once production is discontinued because Eni's activities require the decommissioning of productive infrastructures, well plugging and the environmental remediation and clean-up of industrial hubs and oil and gas fields once production and manufacturing activities cease. Furthermore, in certain situations where Eni is not the operator, the Company may have limited influence and control over third parties, which may limit its ability to manage and control such risks. Eni retains worldwide third-party liability insurance coverage, which is designed to hedge part of the liabilities associated with damage to third parties, loss of value to the Group's assets related to adverse events and in connection with environmental clean-up and remediation. As of the date of this filing, maximum compensation allowed under such insurance coverage is equal to $1.1 billion in case of offshore incident and $1.3 billion in case of incident at onshore facilities (refineries). Additionally, the Company may also activate further insurance coverage in case of specific capital projects and other industrial initiatives. Management believes that its insurance coverage is in line with industry practice and is enough to cover normal risks in its operations. However, the Company is not insured against all potential risks. In the event of a major environmental disaster, such as the incident which occurred at the Macondo well in the Gulf of Mexico several years ago, Eni's third-party liability insurance would not provide any material coverage and thus the Company's liability would far exceed the maximum coverage provided by its insurance. The loss Eni could suffer in case of a disaster of material proportions would depend on all the facts and circumstances of the event and would be subject to a whole range of uncertainties, including legal uncertainty as to the scope of liability for consequential damages, which may include economic damage not directly connected to the disaster. The Company cannot guarantee that it will not suffer any uninsured loss and there can be no guarantee, particularly in the case of a major environmental disaster or industrial accident, that such a loss would not have a material adverse effect on the Company.

The occurrence of any of the above-mentioned risks could have a material and adverse impact on the Group's results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni's shares and could also damage the Group's reputation.

Risks deriving from Eni's exposure to weather conditions

Significant changes in weather conditions in Italy and in the rest of Europe from year to year may affect demand for natural gas and some refined products.

In colder years, demand for such products is higher. Accordingly, the results of operations of Eni's businesses engaged in the marketing of natural gas and, to a lesser extent, the Refining & Marketing business, as well as the comparability of results over different periods may be affected by such changes in weather conditions. Over recent years, this pattern could have been possibly affected by the rising frequency of weather trends like milder winter or extreme weather events like heatwaves or unusually cold snaps, which are possible consequences of climate change.

The Group is exposed to significant financial, operational and industrial risks associated with the exploration and production of crude oil and natural gas

The exploration and production of oil and natural gas require high levels of capital expenditures and are subject to natural hazards and other uncertainties, including those relating to the physical characteristics of oil and gas fields. The exploration and production activities are subject to the mining risk that is the risk of discovering uncommercial quantities of hydrocarbons or of producing less reserves than initially estimated, and the risks of cost overruns and delayed start-up at the projects to develop and produce hydrocarbons reserves with adverse consequences on the return on capital employed. Those risks could have an adverse, significant impact on Eni's future growth prospects, results of operations, cash flows, liquidity, and shareholders' returns.

The production of oil and natural gas is highly regulated and is subject to conditions imposed by governments throughout the world in matters such as the award of exploration and production leases, the imposition of specific drilling and other work obligations, higher-than-average rates of income taxes, additional royalties and taxes on production, environmental protection measures, control over the development and decommissioning of fields and installations, and restrictions on production. A description of the main risks facing the Company's business in the exploration and production of oil and gas is provided below.

a) Exploratory drilling efforts may be unsuccessful

Exploration activities are mainly subject to the mining risk, i.e. the risk of dry holes or failure to find commercial quantities of hydrocarbons. The costs of drilling and completing wells have margins of uncertainty, and drilling operations may be unsuccessful because of a large variety of factors, including geological failure, unexpected drilling conditions, pressure or heterogeneities in formations, equipment failures, well control (blowouts) and other forms of accidents. A large part of the Company exploratory drilling operations is located offshore, including in deep and ultra-deep waters, remote areas and environmentally-sensitive locations (such as the Barents Sea, the Gulf of Mexico, deep water leases off West Africa, Indonesia, the Mediterranean Sea and the Caspian Sea). In these locations, the Company generally experiences higher operational risks and more challenging conditions and incurs higher exploration costs than onshore. Furthermore, deep and ultra-deep water operations require significant time before commercial production of discovered reserves can commence, increasing both the operational and the financial risks associated with these activities.

Because Eni plans to make significant investments in executing exploration projects, it is likely that the Company will incur significant amounts of dry hole expenses in future years. Unsuccessful exploration activities and failure to discover additional commercial reserves could reduce future production of oil and natural gas, which is highly dependent on the rate of success of exploration projects and could have an adverse impact on Eni's future performance, growth prospects and returns.

b) Development projects bear significant operational risks which may adversely affect actual returns

Projects to develop reserves of crude oil and natural gas normally take several years before production start-up after a discovery. Such long lead times are due to the complexity of the activities and tasks that need to be performed before a project final investment decision is made and commercial production can be achieved. Those activities include the appraisal of a discovery to evaluate the technical and economic feasibility of the development project, obtaining the necessary authorizations from governments, state agencies or national oil companies, signing agreements with the first party regulating a project's contractual terms such as the production sharing and cost recovery, agreeing on fiscal terms, obtaining partners' approval, environmental permits and other conditions, signing long-term gas contracts, carrying out the concept design and the front-end engineering and building and commissioning the related plants and facilities. Moreover, projects executed with partners and joint venture partners reduce the ability of the Company to manage risks and costs, and Eni could have limited influence over and control of the operations and performance of its partners. The execution of development projects on time and on budget depends on several factors:

- the outcome of negotiations with joint venture partners, governments and state-owned companies, suppliers and potential customers to define project terms and conditions, including, for example, the fiscal take, the production sharing terms with the first party, or Eni's ability to negotiate favorable long-term contracts to market gas reserves;

- timely issuance of permits and licenses by government agencies, including obtaining all necessary administrative authorizations to drill locations, install producing infrastructures, build pipelines and related equipment to transport and market hydrocarbons;

- the ability to carry out the front-end engineering design in order to prevent the occurrence of technical inconvenience during the execution phase;

- timely manufacturing and delivery of critical plants and equipment by contractors, like floating production storage and offloading (FPSO) vessels, floating units for the production of liquefied natural gas (FLNG) and platforms;

- risks associated with the use of new technologies and the inability to develop advanced technologies to maximise the recoverability rate of hydrocarbons or gain access to previously inaccessible reservoirs;

- delays in the commissioning and hook-up phase;

- changes in operating conditions and cost overruns. We expect the prices of key input factors such as labour, basic materials (steel, cement, and other metals) and utilities to increase meaningfully in the next year or two due to rising inflationary pressures rippling through the entire supply chain at our development projects driven by higher worldwide demand for commodities and semi-finished goods as well as a shortage of productive factors. We also expect a rise in the daily rates of leased rigs and other drilling vessels and facilities as oil companies competes for a stable amount of supply of this kind of equipment. As a matter of fact, oilfield services companies have seen their revenues shrink meaningfully in recent years due to a contraction in capital expenditures made by their clients, and they have responded to the downturn by slashing costs and reducing expenditures in fleet upgrading and expansion;

- the actual performance of the reservoir and natural field decline;

- and the ability and time necessary to build suitable transport infrastructures to export production to final markets.

The occurrence of any of such risks may negatively affect the time-to-market of the reserves and may cause cost overruns and start-up delays, lengthening the project pay-back period. Those risks would adversely affect the economic returns of Eni's development projects and the achievement of production growth targets, also considering that those projects are exposed to the volatility of oil and gas prices which may be substantially different from those estimated when the investment decision was made, thereby leading to lower return rates.

Finally, if the Company is unable to develop and operate major projects as planned, it could incur significant impairment losses of capitalized costs associated with reduced future cash flows of those projects.

c) Inability to replace oil and natural gas reserves could adversely impact results of operations and financial condition, including cash flows

In case the Company's exploration efforts are unsuccessful at replacing produced oil and natural gas, its reserves will decline. In addition to being a function of production, revisions and new discoveries, the Company's reserve replacement is also affected by the entitlement mechanism in its production sharing agreements ("**PSAs**"), whereby the Company is entitled to a portion of a field's reserves, the sale of which is intended to cover expenditures incurred by the Company to develop and operate the field. The higher the reference prices for Brent crude oil used to estimate Eni's proved reserves, the lower the number of barrels necessary to recover the same amount of expenditure, and vice versa.

Future oil and gas production is a function of the Company's ability to access new reserves through new discoveries, application of improved techniques, success in development activity, negotiations with national oil companies and other owners of known reserves and acquisitions.

An inability to replace produced reserves by discovering, acquiring, and developing additional reserves could adversely impact future production levels and growth prospects. If Eni is unsuccessful in meeting its long-term targets of reserve replacement, Eni's future total proved reserves and production will decline.

d) Uncertainties in estimates of oil and natural gas reserves

The accuracy of proved reserve estimates and of projections of future rates of production and timing of development costs depends on several factors, assumptions and variables, including:

- the quality of available geological, technical and economic data and their interpretation and judgment;
- management's assumptions regarding future rates of production and costs and timing of operating and development costs. The projections of higher operating and development costs may impair the ability of the Company to economically produce reserves leading to downward reserve revisions;
- changes in the prevailing tax rules, other government regulations and contractual terms and conditions;
- results of drilling, testing and the actual production performance of Eni's reservoirs after the date of the estimates which may drive substantial upward or downward revisions; and
- changes in oil and natural gas prices which could affect the quantities of Eni's proved reserves since the estimates of reserves are based on prices and costs existing as of the date when these estimates are made.

In 2022, despite rising hydrocarbons prices, we incurred around €400 million of asset impairment at upstream cash generating units "CGU" located in Congo, Egypt, the USA and Algeria due to the above-mentioned risks and accounting estimates. As part of our yearly review of recoverability of the carrying amounts of oil&gas assets, we determined that certain amounts of previously booked proved reserves were no longer economically producible at those assets and we increased future expected development expenditures leading to lower recoverable amounts and the recognition of impairment losses; for further information see Item 5.

Lower oil prices may impair the ability of the Company to economically produce reserves leading to downward reserve revisions.

Many of the factors, assumptions and variables underlying the estimation of proved reserves involve management's judgment or are outside management's control (prices, governmental regulations) and may change over time, therefore affecting the estimates of oil and natural gas reserves from year-to-year.

The prices used in calculating Eni's estimated proved reserves are, in accordance with the U.S. Securities and Exchange Commission (the "U.S. SEC") requirements, calculated by determining the unweighted arithmetic average of the first-day-of-the-month commodity prices for the preceding 12 months. For the 12-months ending at December 31, 2022, average prices were based on 101 $/barrel for the Brent crude oil. Compared to the 2022 reference price, Brent prices have declined significantly in the first quarter of 2023. If such prices do not increase in the coming months, Eni's future calculations of estimated proved reserves will be based on lower commodity prices which would likely result in the Company having to remove non-economic reserves from its proved reserves in future periods.

Accordingly, the estimated reserves reported as of the end of 2022 could be significantly different from the quantities of oil and natural gas that will be ultimately recovered. Any downward revision in Eni's estimated quantities of proved reserves would indicate lower future production volumes, which could adversely impact Eni's business prospects, results of operations, cash flows and liquidity.

e) The development of the Group's proved undeveloped reserves may take longer and may require higher levels of capital expenditures than it currently anticipates or the Group's proved undeveloped reserves may not ultimately be developed or produced

As of December 31, 2022, approximately 37% of the Group's total estimated proved reserves (by volume) were undeveloped and may not be ultimately developed or produced. Recovery of undeveloped reserves requires significant capital expenditures and successful drilling operations. The Group's reserve estimates assume it can and will make these expenditures and conduct these operations successfully. These assumptions may prove to be inaccurate and are subject to the risk of a structural decline in the prices of hydrocarbons due to a possible acceleration towards a low-carbon economy and a shift in consumers' behavior and preferences. In case of a prolonged decline in the prices of hydrocarbon the Group may not have enough financial resources to make the necessary expenditures to recover undeveloped reserves. The Group's reserve report as of December 31, 2022 includes estimates of total future development and decommissioning costs associated with the Group's proved total reserves of approximately €44.3 billion (undiscounted, including consolidated subsidiaries and equity-accounted entities). It cannot be certain that estimated costs of the development of these reserves will prove correct, development will occur as scheduled, or the results of such development will be as estimated. In case of change in the Company's plans to develop those reserves, or if it is not otherwise able to successfully develop these reserves as a result of the Group's inability to fund necessary capital expenditures or otherwise, it will be required to remove the associated volumes from the Group's reported proved reserves.

f) The oil&gas industry is a capital-intensive business and needs large amount of funds to find and develop reserves. In case the Group does not have access to sufficient funds its oil&gas business may decline

The oil and gas industry is a capital intensive business. Eni makes and expects to continue making substantial capital expenditures in its business for the exploration, development and production of oil and natural gas reserves. Over the next four years, the Company plans to invest in the oil and gas business approximately €6-6.5 billion per year on average. Historically, Eni's capital expenditures have been financed with cash generated from operations, proceeds from asset disposals, borrowings under its credit facilities and proceeds from the issuance of debt and bonds. The actual amount and timing of future capital expenditures may differ materially from Eni's estimates as a result of, among other things, changes in commodity prices, changes in cost of oil services, available cash flows, lack of access to capital, actual drilling results, the availability of drilling rigs and other services and equipment, the availability of transportation capacity, and regulatory, technological and competitive developments. Eni's cash flows from operations and access to capital markets are subject to several variables, including but not limited to:

- the amount of Eni's proved reserves;
- the volume of crude oil and natural gas Eni is able to produce and sell from existing wells;
- the prices at which crude oil and natural gas are marketed;
- Eni's ability to acquire, find and produce new reserves; and
- the ability and willingness of Eni's lenders to extend credit or of participants in the capital markets to invest in Eni's bonds.

If revenues or Eni's ability to borrow decrease significantly due to factors such as a prolonged decline in crude oil and natural gas prices or a more stringent investment framework on part of lenders and financing institutions due to ESG considerations, Eni might have limited ability to obtain the capital necessary to sustain its planned capital expenditures. In addition, a greater than expected capital expenditure may curtail Eni's ability to return cash to is shareholders through dividends and share repurchases. If cash generated by operations, cash from asset disposals, or cash available under Eni's liquidity reserves or its credit facilities is not sufficient to meet capital requirements, the failure to obtain additional financing could result in a curtailment of operations relating to development of Eni's reserves, which in turn could adversely affect its results of operations and cash flows and its ability to achieve its growth plans. The variability of Eni's cash flow from operation has become an even greater risk factor in the current scenario, which is featuring significant increases in expenditures to sustain the Company's current production plateau. In 2022 our capital expenditures in the E&P segment increased by about 60% to €6.4 billion due to the need to catch up following the capex cuts and activities rescheduling made during the COVID-19 pandemic, cost inflation, the appreciation of US dollar against the Euro (up by 10% in 2022) and the start of new projects. Higher cash requirements to fund the Company's capital plans at a time when hydrocarbons prices may come under pressure due to macroeconomic risks may increase the Company's financial risk profile and may require us to take on new finance debt from banks and financing institutions.

Finally, funding Eni's capital expenditures with additional debt will increase its leverage and the issuance of additional debt will require a portion of Eni's cash flows from operations to be used for the payment of interest and principal on its debt, thereby reducing its ability to use cash flows to fund capital expenditures and dividends.

g) Oil and gas activity may be subject to increasingly high levels of income taxes and royalties

Oil and gas operations are subject to the payment of royalties and income taxes, which tend to be higher than those payable in other commercial activities. Management believes that the marginal tax rate in the oil and gas industry tends to increase in correlation with higher oil prices, which could make it more difficult for Eni to translate higher oil prices into increased net profit. However, the Company does not expect that the marginal tax rate will decrease in response to falling oil prices. Adverse changes in the tax rate applicable to the Group's profit before income taxes in its oil and gas operations would have a negative impact on Eni's future results of operations and cash flows.

The surge in hydrocarbons and electricity prices drove a strong rebound in the results of companies in the energy sector. This trend started in 2021 due to a rebound in economic activity post the COVID-19 downturn and then accelerated in 2022 due to market fundamentals and geopolitical factors. The rise in the cost of fuels and energy has significantly and adversely affected businesses' profit margins and households' disposable income. In response to growing public concern, in the course of 2022 governments of EU member states and of UK have enacted or have announced the intention to enact one-off or temporary windfall levies to increase the taxes on the profits of energy companies relating to the portion of those profits deemed to exceed historical averages, to collect funds to alleviate the financial burden on households and businesses due to rising costs of fuels and energy.

In Italy, law n.51 of May 20, 2022, enacted a solidarity contribution for energy companies by establishing a one-off, windfall tax on the profits of those businesses. The levy was calculated by applying a 25% rate to the increase of the balance of sales and purchases declared in the periodic settlement of the value added tax in the six-month period starting October 1, 2021 through April, 30, 2022 over the corresponding prior years period. The Company recognized a cash expense of about €1.04 billion to settle this tax item.

In October, EU regulation 1854/2022 introduced a solidarity contribution for EU companies with activities in the crude petroleum, natural gas, coal and refinery sectors in order to mitigate the economic effects of the soaring energy prices for public authorities' budgets, final customers and companies across the EU. Each Member State is demanded to adopt a national legislation to comply with that regulation. As part of that framework, the Italian government through the budget law for 2023 has enacted a windfall levy calculated by applying a 50% rate to the portion of taxable profit earned by companies in the hydrocarbons sector in 2022, which exceeds an amount equal to 110% of the average taxable profit of the previous four-year period. To account for this additional levy, the Group recognized a tax expense of about €1 billion, with the relevant cash out due in the course of 2023. Also Germany enacted a similar levy on the company's our refining activity in this country, leading to the recognition of a tax expense of €0.17 billion.

Finally, the UK Energy Profits Levy was enacted effective May 26, 2022, which added a windfall tax rate of 25% to the corporate tax rate of oil&gas companies operating in UK and in the UK continental shelf. As a result of this windfall tax, the UK corporate tax rate increased to 65%. The windfall tax will remain valid until hydrocarbons prices normalize, and however no further than December 31, 2025. Eni accrued a charge of about €170 million to account for that levy. Furthermore, the UK proposal of budget law for fiscal year 2023 provisioned an increase of that rate to 35% and an extension of its term until the first quarter of 2028. Based on the latest levy modifications, the Company expects to incur a significant burden of income taxes at its UK activities in the next years, until the planned levy expiration in 2028.

Overall, all those extraordinary tax charges affected the Group net income for about €2.4 billion and reduced the yearly cash flow by about €1.1 billion.

Given the current environment of high energy prices, rising pressures on public finances due to an expected economic slowdown and the perception the oil&gas companies may be benefiting from the ongoing geopolitical situation, management cannot rule out the possibility of the introduction of new windfall taxes and other extraordinary levies targeting the hydrocarbons sector, which could negatively affect the Group's results of operations and cash flows.

h) The present value of future net revenues from Eni's proved reserves will not necessarily be the same as the current market value of Eni's estimated crude oil and natural gas reserves

The present value of future net revenues from Eni's proved reserves may differ from the current market value of Eni's estimated crude oil and natural gas reserves. In accordance with the SEC rules, Eni bases the estimated discounted future net revenues from proved reserves on the 12- month unweighted arithmetic average of the first day of the month commodity prices for the preceding twelve months. Actual future prices may be materially higher or lower than the SEC pricing method in the calculations. Actual future net revenues from crude oil and natural gas properties will be affected by factors such as:

- the actual prices Eni receives for sales of crude oil and natural gas;
- the actual cost and timing of development and production expenditures;
- the timing and amount of actual production; and
- changes in governmental regulations or taxation.

The timing of both Eni's production and its incurrence of expenses in connection with the development and production of crude oil and natural gas properties will affect the timing and amount of actual future net revenues from proved reserves, and thus their actual present value. Additionally, the 10% discount factor Eni uses when calculating discounted future net revenues may not be the most appropriate discount factor based on interest rates in effect from time to time and risks associated with Eni's reserves or the crude oil and natural gas industry in general.

i) Oil and gas activity may be subject to increasingly high levels of regulations throughout the world, which may have an impact on the Group's extraction activities and the recoverability of reserves

The production of oil and natural gas is highly regulated and is subject to conditions imposed by governments throughout the world in matters such as the award of exploration and production leases, the imposition of specific drilling and other work obligations, environmental and safety protection measures, control over the development and abandonment of fields and installations, and restrictions on production. These risks can limit the Group's access to hydrocarbons reserves or may cause the Group to redesign, curtail or cease its oil and gas operations with significant effects on the Group's business prospects, results of operations and cash flow.

Risks related to political considerations

As at December 31, 2022, about 81% of Eni's proved hydrocarbon reserves were located in non-OECD (*Organisation for Economic Co-operation and Development*) countries, mainly in Africa, Central Asia and Middle East where the socio-political framework, the financial system and the macroeconomic outlook are less stable than in the OECD countries. In those non-OECD countries, Eni is exposed to a wide range of political risks and uncertainties, which may impair Eni's ability to continue operating economically on a temporary or permanent basis, and Eni's ability to access oil and gas reserves. Particularly, Eni faces risks in connection with the following potential issues and risks:

- socio-political instability leading to internal conflicts, revolutions, establishment of non-democratic regimes, protests, attacks, and other forms of civil disorder and unrest, such as strikes, riots, sabotage, blockades, vandalism and theft of crude oil at pipelines, acts of violence and similar events. These risks could result in disruptions to economic activity, loss of output, plant closures and shutdowns, project delays, loss of assets and threats to the security of personnel. They may disrupt financial and commercial markets, including the supply of and pricing for oil and natural gas, and generate greater political and economic instability in some of the geographical areas in which Eni operates. Additionally, any possible reprisals because of military or other action, such as acts of terrorism in Europe, the United States or elsewhere, could have a material adverse effect on the world economy and hence on the global demand for hydrocarbons. In recent years including 2022, we have experienced higher-than-usual frequency in the theft of oil at our pipelines in Nigeria, which have resulted in significant loss of output and revenues;

- lack of well-established and reliable legal systems and uncertainties surrounding the enforcement of contractual rights;

- unfavorable enforcement of laws, regulations and contractual arrangements leading, for example, to expropriation, nationalization or forced divestiture of assets and unilateral cancellation or modification of contractual terms;

- sovereign default or financial instability since those countries rely heavily on petroleum revenues to sustain public finance. Financial difficulties at country level often translate into failure by state-owned companies and agencies to fulfil their financial obligations towards Eni relating to funding capital commitments in projects operated by Eni or to timely paying for supplies of equity oil and gas volumes;

- restrictions on exploration, production, imports and exports;
- tax or royalty increases (including retroactive claims);
- difficulties in finding qualified international or local suppliers in critical operating environments; and
- complex processes of granting authorizations or licenses affecting time-to-market of certain development projects.

Areas where Eni operates and where the Company is particularly exposed to political risk include, but are not limited to Libya, Venezuela, and Nigeria.

Eni’s operations in Libya are currently exposed to significant geopolitical risks. The social and political instability of the Country dates back to the revolution of 2011 that brought a change of regime and a civil war, triggering an uninterrupted period of lack of well-established institutions and recurrent acts of internal conflict, clashes, acts of war, disorders and other forms of civil turmoil and unrest between the two conflicting factions that emerged in the post-revolution political landscape. In the year of the revolution, Eni’s operations in Libya were materially affected by a full-scale war, which forced the Company to shut down its development and extractive activities for almost all of 2011, with a significant negative impact on the Group’s results of operation and cash flow. In subsequent years, Eni has experienced frequent disruptions to its operations, albeit on a smaller scale than in 2011, due to security threats to its installations and personnel and plan shutdowns due to force majeure. Since September 2020, the country had undergone a phase of stability which lasted for a large part of 2021, thanks to a pacification agreement with the aim of installing a new government freely elected by the entire population. However, the electoral process failed and the opposition between the Government of National Unity installed in Tripoli and the self-appointed National Stability Government installed in the east of the country resumed, fueling protests for a better redistribution of oil revenues and social tension. In 2022, the situation of instability and disorder determined between April and June the almost total shutdown of oil production in the eastern part of the country and the main export terminals, while two factions were disputing the appointment of the top management of the NOC State Company. The force majeure affected some assets participated by Eni. In 2022, Eni's production in Libya was 159 kboe/d.

Management believes that Libya’s geopolitical situation will continue to represent a source of risk and uncertainty to Eni’s operations in the country and to the Group’s results of operations and cash flow. Currently, Libyan production represents approximately 10% of the Group’s total production.

Venezuela is currently experiencing a situation of financial stress, which has been exacerbated by the economic recession caused by the effects of the COVID-19 pandemic. Lack of financial resources to support the development of the country’s hydrocarbons reserves has negatively affected the country’s production levels and hence fiscal revenues. The situation has been made worse by certain international sanctions targeting the country’s financial system and its ability to export crude oil to U.S. markets, which is the main outlet of Venezuelan production, as well as a US ban on dealing with Venezuela’s state-owned petroleum entities.

Currently, the Company retains just one main asset in Venezuela: the 50%-participated Cardón IV joint venture, which is operating an offshore natural gas field and is supplying its production to the national oil company, Petroleos de Venezuela SA ("PDVSA"), under a long-term supply agreement. PDVSA has failed to regularly pay the receivables for the gas volumes supplied by Cardón IV and consequently a significant amount of overdue receivables is outstanding at the closing date of the financial year 2022 and a credit loss provision has been booked to reflect the counterparty risk. The Company incurred in past years significant impairment losses and reserves de-bookings at the other main project in Venezuela relating to the PetroJunin onshore oilfield and at other minor projects, which were completely written off in past reporting periods. As of 31 December 2021, Eni's invested capital in Venezuela was approximately €1.1 billion, mainly relating to trade receivable owed to us by PDVSA. Due to a partial lifting of US sanctions on the trade of Venezuelan crude oil, Eni was able in 2022 to obtain the reimbursement in-kind of a portion of its trade receivables, so to partly offset the increase of the year due to the current natural gas production and revenues. However, there is still a great deal of uncertainty about any possible evolution of the US sanctions against Venezuela and our ability to recover our outstanding receivables.

The Group has significant credit exposure towards state-owned and privately-held local companies in Nigeria in relation to their share of funding of petroleum projects operated by Eni. Eni has incurred significant credit losses because of the ongoing difficulties of Eni's Nigerian counterparts to reimburse amounts past due.

Furthermore, Eni's operations in Nigeria were negatively affected by continuing acts of theft of oil at onshore pipelines.

Finally, Eni's Oil Prospecting License 245 expired in May 2021 and a request is pending to convert the license into an oil mining license to start development operations of the license reserves before the Nigerian authorities in charge. The management believes the request of conversion complies with the contractual terms, deadlines, and any other applicable conditions. However, the Nigerian authorities are holding back the approval. Eni has started an arbitration before an ICSID court to preserve the value of its asset.

Sanction targets

The most relevant sanction programs for Eni are those issued by the European Union and the United States of America and, as of today, the restrictive measures adopted by such authorities in respect of Russia and Venezuela.

As consequence of Russia's military aggression of Ukraine, the European Union, the United Kingdom, the United States and the G-7 countries adopted a comprehensive system of sanctions against Russia to weaken its economy and its ability to finance the war. The sanction system is constantly evolving.

The main targets of the sanctions are the Russian Central Bank and the major financial institutions of the country. The EU has sanctioned the Russian Central Bank and many commercial banks by freezing assets and imposing a ban on EU operators from making transactions with sanctioned entities (such as providing financing, managing assets or Russian Central Bank's reserves and any other kind of transaction).

Considering the complexity of the sanctions and the existing Eni's contracts for gas supply from Russia and the need to make payments to Russian counterparties, the Company is exposed to the risk of possible violations of the sanction's regime.

Eni adopted the necessary measures to ensure that its activities are carried out in accordance with the applicable rules, ensuring continuous monitoring of the evolution in the sanction framework, to adapt on an ongoing basis its activities to the applicable restrictions. In accordance with these guidelines, Eni complied with a new procedure of payment in rubles of Russian gas supplies, requested by the supplier GazpromExport in execution of legislative acts to which Eni is not subject (presidential decrees of the President of the Russian Federation).

The adhesion to this new payment procedure, not provided by the existing contractual provisions of regulation in euro, took place after considering the risks of possible violation of the sanction's regime, as well as all the risks related to the duty to implement fairly the contractual obligations and after obtaining the prior approval of the Italian Authorities, responsible for verifying the compliance with the EU sanctions.

Eni has agreed to adhere to the new procedure, which we believe does not constitute a unilateral modification of the supply contract and invoices have continued to be issued in euro. This new procedure provides: i) the opening by Eni, as a precautionary measure, of two currency accounts called "K accounts" at the Russian Gazprombank; ii) the deposit by Eni of the invoices balance expressed in euro in one of the two K accounts (the one denominated in euro); iii) the conversion by Gazprombank into rubles at the Moscow Stock Exchange in the following 48 hours through a clearing agent; iv) the transfer according to the procedure of rubles obtained in the second K account (denominated in rubles). GazpromExport will be paid through this latter K account.

Eni considers that this conversion does not constitute the management of assets or reserves of the Russian Central Bank or a form of financing for Gazprombank or other entities subject to EU sanctions, as well as that the opening of K accounts takes place without prejudice to any of its contractual rights, which provide for the fulfilment of the obligation to pay in euro, while the risks and charges for conversion into rubles remains at the responsibility of the Russian supplier.

As a precautionary measure, Eni has initiated an international arbitration based on the Swedish law (as required by the existing contracts) to resolve doubts regarding the contractual changes required by the new payment procedure and the correct allocation of costs and risks.

Furthermore, an escalation of the international crisis, resulting in a tightening of sanctions, could entail a significant disruption of energy supply and trade flows globally, which could have a material adverse effect on the Group's business, financial conditions, results of operations and prospects.

From 2017, the United States have enacted a regime of economic and financial sanctions against Venezuela. The scope of the restrictions, initially targeting certain financial instruments issued or sold by the Government of Venezuela, was gradually expanded over 2017 and 2018 and then significantly broadened during the course of 2019 when PDVSA, the main national state-owned enterprise, has been added to the "Specially Designated Nationals and Blocked Persons List" and the Venezuelan government and its controlled entities became subject to assets freeze in the United States. Even if such U.S. sanctions are substantially "primary" and therefore dedicated in principle to U.S. persons only, retaliatory measures and other adverse consequences may also interest foreign entities which operate with Venezuelan listed entities and/or in the oil sector of the country. The U.S. sanction regime against Venezuela was further tightened in the final part of 2020 by restricting any Venezuelan oil exports, including swap schemes utilised by foreign entities to recover trade and financing receivables from PDVSA and other Venezuelan counterparties. This latter tightening of the sanction regime has reduced the Group's ability to collect the trade receivable owed to Eni for its activity in the country in 2021 and 2022, except for limited waivers agreed with US relevant authorities.

Eni carefully evaluates on a case-by-case basis the adoption of adequate measures to minimize its exposure to any sanctions risk which may affect its business operation. In any case, the U.S. sanctions add stress to the already complex financial, political and operating outlook of the country, which could further limit the ability of Eni to recover its investments in Venezuela.

Specific risks of the Company's gas business in Italy

a) Current, negative trends in the competitive environment of the European natural gas sector may impair the Company's ability to fulfil its minimum off-take obligations in connection with its take-or-pay, long-term gas supply contracts

Eni is currently party to a few long-term gas supply contracts with state-owned companies of key producing countries, from where most of the gas supplies directed to Europe are sourced via pipeline (Russia, Algeria, Libya and Norway). These contracts which were intended to support Eni's sales plan in Italy and in other European markets, provide take-or-pay clauses whereby the Company has an obligation to lift minimum, preset volumes of gas in each year of the contractual term or, in case of failure, to pay the whole price, or a fraction of that price, up to a minimum contractual quantity. Similar considerations apply to ship-or-pay contractual obligations which arise from contracts with transmission system operators or pipeline owners, which the Company has entered into to secure long-term transport capacity. Long-term gas supply contracts with take-or pay clauses expose the Company to a volume risk, as the Company is obligated to purchase an annual minimum volume of gas, or in case of failure, to pay the underlying price. The structure of the Company's portfolio of gas supply contracts is a risk to the profitability outlook of Eni's wholesale gas business due to the current competitive dynamics in the European gas markets. In past downturns of the gas sector, the Company incurred significant cash outflows in response to its take-or-pay obligations. Furthermore, the Company's wholesale business is exposed to volatile spreads between the procurement costs of gas, which are linked to spot prices at European hubs or to the price of crude oil, and the selling prices of gas which are mainly indexed to spot prices at the Italian hub.

Eni's management is planning to continue its strategy of renegotiating the Company's long-term gas supply contracts in order to constantly align pricing terms to current market conditions as they evolve and to obtain greater operational flexibility to better manage the take-or-pay obligations (volumes and delivery points among others), considering the risk factors described above. The revision clauses included in these contracts state the right of each counterparty to renegotiate the economic terms and other contractual conditions periodically, in relation to ongoing changes in the gas scenario. Management believes that the outcome of those renegotiations is uncertain in respect of both the amount of the economic benefits that will be ultimately obtained and the timing of recognition of profit. Furthermore, in case Eni and the gas suppliers fail to agree on revised contractual terms, both parties can start an arbitration procedure to obtain revised contractual conditions. All these possible developments within the renegotiation process could increase the level of risks and uncertainties relating the outcome of those renegotiations.

b) Risks associated with the regulatory powers entrusted to the Italian Regulatory Authority for Energy, Networks and Environment in the matter of pricing to residential customers

Eni's wholesale gas and retail gas and power businesses are subject to regulatory risks mainly in Italy's domestic market. The Italian Regulatory Authority for Energy, Networks and Environment (the "Authority") is entrusted with certain powers in the matter of natural gas and power pricing. Specifically, the Authority retains a surveillance power on pricing in the natural gas market in Italy and the power to establish selling tariffs for the supply of natural gas to residential and commercial users who are opting for adhering to regulated tariffs until the market is fully opened. Developments in the regulatory framework intended to increase the level of market liquidity or of deregulation or intended to reduce operators' ability to transfer to customers cost increases in raw materials may negatively affect future sales margins of gas and electricity, operating results, and cash flow. In the current environment characterized by rising energy costs, it is increasingly possible that the Authority may enact measures intended to limit revenues of inframarginal power generation and to reduce the indexation of the cost of the raw materials in pricing formulae applied by retail companies that market natural gas and electricity to residential customers and that development could negatively affect our results of operations and cash flow in the domestic retail business of natural gas and power. In the current energy crisis context, characterized by many regulatory interventions at EU and national level aimed at ensuring security of supply and curbing consumptions and energy prices for final customers, also our GGP business that engages in the wholesale marketing of natural gas and the power generation business that sell produced electricity on the spot market could be exposed to a regulatory risk, although on a smaller scale than the retail business due to well-established and liquid spot markets for natural gas and electricity.

Risks related to environmental, health and safety regulations and relevant legal risks

Eni has incurred in the past, and will continue incurring in future years, material operating expenses and expenditures in relation to compliance with applicable environmental, health and safety regulations, including compliance with any national or international regulation on greenhouse gas (GHG) emissions

Eni is subject to numerous European Union, international, national, regional and local laws and regulations regarding the impact of its operations on the environment and on health and safety of employees, contractors, communities and on the value of properties. Laws and regulations intended to preserve the environment and to safeguard health and safety of workers and communities impose several obligations, requirements and prohibitions to the Company's businesses due to their inherent nature because of flammability, dangerousness and toxicity of hydrocarbons and of objective risks of industrial processes to explore, develop, extract, refine and transport oil, gas, and products. Generally, these laws and regulations require acquisition of a permit before drilling for hydrocarbons may commence, restrict the types, quantities and concentration of various substances that can be released into the environment in connection with exploration, drilling and production activities, including refinery and petrochemical plant operations, limit or prohibit drilling activities in certain protected areas, require to remove and dismantle drilling platforms and other equipment and well plug-in once oil and gas operations have terminated, provide for measures to be taken to protect the safety of the workplace, the health of employees, contractors and other Company collaborators and of communities involved by the Company's activities, and impose criminal and civil liabilities for polluting the environment or harming employees' or communities' health and safety as result from the Group's operations. These laws and regulations control the emission of scrap substances and pollutants, discipline the handling of hazardous materials and set limits to or prohibit the discharge of soil, water or groundwater contaminants, emissions of toxic gases and other air pollutants or can impose taxes on carbon dioxide emissions, as in the case of the European Trading Scheme that requires the purchase of an emission allowance for each tons of carbon dioxide emitted in the environment above a pre-set threshold, resulting from the operation of oil and natural gas extraction and processing plants, petrochemical plants, refineries, service stations, vessels, oil carriers, pipeline systems and other facilities owned or operated by Eni.

In addition, Eni's operations are subject to laws and regulations relating to the production, handling, transportation, storage, disposal and treatment of waste. Breaches of environmental, health and safety laws and regulations as in the case of negligent or willful release of pollutants and contaminants into the atmosphere, the soil, water or groundwater or exceeding the concentration thresholds of contaminants set by the law expose the Company to the incurrence of liabilities associated with compensation for environmental, health or safety damage and expenses for environmental remediation and clean-up. Furthermore, in the case of violation of certain rules regarding the safeguard of the environment and the health and safety of employees, contractors, and other collaborators of the Company, and of communities, the Company may incur liabilities in connection with the negligent or willful violations of laws by its employees as per Italian Law Decree No. 231/2001.

Environmental, health and safety laws and regulations have a substantial impact on Eni's operations. Management expects that the Group will continue to incur significant amounts of operating expenses and expenditures in the foreseeable future to comply with laws and regulations and to safeguard the environment and the health and safety of employees, contractors and communities involved by the Company operations, including:

- costs to prevent, control, eliminate or reduce certain types of air and water emissions and handle waste and other hazardous materials, including the costs incurred in connection with government action to address climate change (see the specific section below on climate-related risks);

- remedial and clean-up measures related to environmental contamination or accidents at various sites, including those owned by third parties;

- damage compensation claimed by individuals and entities, including local, regional or state administrations, should Eni cause any kind of accident, oil spill, well blowouts, pollution, contamination, emission of air pollutants and toxic gases above permitted levels or of any other hazardous gases, water, ground or air contaminants or pollutants, as a result of its operations or if the Company is found guilty of violating environmental laws and regulations; and

- costs in connection with the decommissioning and removal of drilling platforms and other facilities, and well plugging at the end of oil and gas field production. Also, in case management decides to shut down production lines at refineries or petrochemicals complex, the Group would incur liabilities to dismantle and remove production facilities put out of service and to clean up and to remediate the area, as occurred in 2022 with management's resolution to halt a refinery unit and ancillary equipment at an Italian refinery.

As a further consequence of any new laws and regulations or other factors, like the actual or alleged occurrence of environmental damage at Eni’s plants and facilities, the Company may be forced to curtail, modify or cease certain operations or implement temporary shutdowns of facilities. If any of the risks set out above materialise, they could adversely impact the Group’s results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s shares.

Climate change-related risks

Increasing worldwide efforts to tackle climate change may lead to the adoption of stricter regulations to curb carbon emissions and this may end up suppressing demands for our products in medium-to-long term.

Governments of the nations that have signed the 2015 COP 21 Paris Agreement have been advancing plans and initiatives intended to transition the economy towards a low-carbon model in the long run to pursue the objective of containing the temperature increase to 1.5 °C above preindustrial levels and tackling risks of structural modifications to the Earth climate, which would pose serious threat to life on the planet. The scientific community has been sounding alarms over the potential, catastrophic consequences caused by rising global temperatures to the environment and has established that the release in the atmosphere of carbon dioxide (CO_2) as a result of burning fossil fuels and other human activities and the emissions of other harmful gases like methane are the main drivers of climate change. The rising in frequency and dangerousness of many extreme weather events has been widely recognized as a direct consequence of the climate change such as floods, drought, hurricanes, heat waves, cold snaps, rising sea levels, fires, and other environmental mutations, which have been causing material damage to economies, loss of human lives, damage to property, destruction of ecosystems and other negative impacts. The energy transition, as well as increasingly stricter regulations in the field of CO_2 emission, could adversely and materially affect demands for the Group’s products and hence our business, results of operations and prospects.

The dramatic fallout of the COVID-19 pandemic on economic activity and people’s lifestyle could have possibly accelerated the evolution toward a low-carbon model of development. This is because many governments and the EU deployed massive amounts of resources to help the economy recover and a large part of this economic stimulus has been or is planned to be directed to help transitioning the economy and the energy mix towards a low-carbon model, as in the case of the EU’s recovery fund, which provides for huge investments in the sector of renewable energies and the green economy, including large-scale adoption of hydrogen as a new energy source.

Those risks may emerge in the short, medium and long term.

Eni expects that the achievement of the Paris Agreement goal of limiting the rise in temperature to well below 2° C above pre-industrial levels in this century, or the more ambitious goal of limiting global warming to 1.5° C, will strengthen the global response to the issue of climate change and spur governments to introduce measures and policies targeting the reduction of GHG emissions, which are expected to bring about a gradual reduction in the use of fossil fuels over the medium to long-term, notably through the diversification of the energy mix, likely reducing local demand for fossil fuels and negatively affecting global demand for oil and natural gas.

Although the Company is investing a significant amount of resources to develop decarbonized products and to grow the generation capacity of renewable power and other low and zero carbon technologies to produce power or absorb carbon dioxide (CO_2) from the atmosphere, the Group’s financial performance and business prospects still depends in a substantial way on the legacy business of Exploration & Production. In case demands for hydrocarbons decline rapidly due to widespread adoption of regulations, rules or international treaties designed to reduce GHG emissions, our results of operations and business prospects may be significantly and negatively affected.

Eni expects its operating and compliance expenses to increase in the short term due to the likely growing adoption of carbon tax mechanisms. Some governments have already introduced carbon pricing schemes, which can be an effective measure to reduce GHG emissions at the lowest overall cost to society. Currently, about half of the direct GHG emissions coming from Eni’s operated assets are included in national or supranational Carbon Pricing Mechanisms, such as the European Emission Trading Scheme (ETS), which provides an obligation to purchase, on the open market, emission allowances in case GHG emissions exceed a pre-set amount of emission allowances allotted for free. In 2022 to comply with this carbon emissions scheme, Eni purchased on the open market allowances corresponding to 16.73 million tons of CO_2 emissions incurring expenses of around €950 million (12.42 million tons in 2021 for a total expense of €660 million). Due to the likelihood of new regulations in this area and expectations of a reduction in free allowances under the European ETS and the likely adoption of similar schemes by a rising number of governments, Eni is aware of the risk that a growing share of the Group’s GHG emissions could be subject to carbon-pricing and other forms of climate regulation in the near future, leading to additional compliance and cost obligations with respect to the release in the atmosphere of carbon dioxide. In the future, we could incur increased investments and significantly higher operating expenses in case the Company is unable to reduce the carbon footprint of its operations. Eni also expects that governments will require companies to apply technical measures to reduce their GHG emissions.

In the long-term demands for hydrocarbons may be materially reduced by the projected mass adoption of electric vehicles, the development of green hydrogen, the deployment of massive investments to grow renewable energies also supported by governments fiscal policies and the development of other technologies to produce clean feedstock, fuels and energy.

In the long term, the role of hydrocarbons in satisfying a large portion of the energy needs of the global economy may be displaced by the emergence of new products and technologies, as well as by changing consumers’ preferences. The automotive industry is investing material amounts of resources to upgrade its assembly line to ramp up production of electric vehicles (EVs) and to boost the EVs line-up, with R&D efforts focused on reducing the performance and cost gap with the internal-combustion-engine cars and light-duty vehicles, particularly by extending batteries range. The EV market has attracted large amounts of venture capital and financing, which have propelled the growth of an entirely new batch of pure-EV players, which are introducing smart EV models to gain consumers preference and market share, fueling continuing innovation in the sector and accelerating the strategic shift of well-established car companies. Sales of EVs have grown significantly in 2022, also thanks to fiscal incentives designed to increase the affordability of EVs by middle and low-income households, and according to market projections sales of EVs will surpass internal-combustion-engine sales by 2030 also helped by proposed measures to be introduced by states and local administration to ban sales of new internal-combustion-engine cars. This trend could disrupt in the long term the consumption of gasoline which is one of the main drivers of global crude oil demand. Other potentially disruptive technologies designated to produce clean energy and fuels are emerging, driven by the development of hydrogen-based solutions as an energy vector or the utilization of renewables feedstock to manufacture fuels and other goods replacing oil-based products. Production of hydrogen by means of green technologies will also reduce hydrocarbons demands. The electricity generation from wind power or solar technologies is projected to grow massively in line with the stated targets by several governments and institutions like the EU, the USA and the UK to decarbonize the electricity sector in the next one or two decades, replacing gas-fired generation.

These trends could disrupt demand for hydrocarbons in the future, with many forecasters, both within the industry, or state agencies and independent observers predicting peak oil demand in the next ten years or earlier.

A large portion of Eni’s business depends on the global demand for oil and natural gas. If existing or future laws, regulations, treaties, or international agreements related to GHG and climate change, including state incentives to conserve energy or use alternative energy sources, technological breakthroughs in the field of renewable energies, hydrogen, production of nuclear energy or mass adoption of electric vehicles trigger a structural decline in worldwide demand for oil and natural gas, Eni’s results of operations and business prospects may be materially and adversely affected.

Supranational institutions, like the United Nations, civil society and the scientific community are calling for bold action to tackle climate change and this may lead governments to take extraordinary measures to cut carbon emissions

The United Nations, representatives from the civil society, some Non-Governmental Organizations (“NGO”), international institutions and the scientific community have become increasingly vocal about the dramatic consequences of climate change for the life on the planet, warning about irreversible damages to the ecosystem and calling for drastic and immediate actions by governments to tackle the emergency. In a report issued on May 18, 2021 the International Energy Agency has claimed that to reach net-zero GHG emissions by 2050 and commitments set out in the Paris Agreement, there must be an immediate ban on investments in new oil and gas projects. In response to those requests for intervention, it is possible that certain governments in jurisdictions where we operate may deny permissions to start new oil and gas projects or may impose further restrictions on drilling and other field activities or ban oil&gas operations altogether. These possible developments could significantly and negatively affect our business’s prospects and results of operations.

We are exposed to growing legal risks in connection with the hundreds of lawsuits pending in various jurisdictions against oil&gas companies based on alleged violation of human rights, damage to environment and other claims and such legal actions may be brought against us.

In recent years, there has been a marked increase in climate-based litigation. Courts could be more likely to hold companies who have allegedly made the most significant contributions to climate change to account. Oil&gas companies are particularly exposed to that risk.

In 2021, a Dutch court ordered an international oil company to reduce their worldwide emissions (Scope 1, 2, and 3) by a significant amount within a preset timeframe. This indicates that oil and gas companies may have an individual legal responsibility to reduce emissions to address climate change and confirms the risk of liability, including liability for human rights violations. Courts may condemn oil and gas companies to compensate individuals, communities, and states for the economic losses due to global warming as a consequence of their alleged responsibility in supporting hydrocarbons and knowingly hurting the environment.

For example, we are defending in California against claims brought to us by local administrations and certain associations of individuals who are seeking compensation for alleged economic losses and environmental damage due to climate change.

Board’s directors may be summoned before courts for having failed to implement a climate strategy in line with the goals of the Paris Agreement or for not having acted quickly to reduce emissions of greenhouse gases “GHG”.

Private individuals, associations and NGOs may also bring legal actions against states to get them condemned to adopt stricter national targets of reduction in the absolute level of GHG emissions and that could entail more restrictive measures on businesses. For example, an association of private individuals have sued the Italian state for allegedly violating human rights and have claimed the Italian State to increase the national targets of reduction of GHG emissions and that could have negative consequences for Eni.

There are also risks that governments, regulators, organizations, NGOs and individuals may sue us for alleged crimes against the environment in connection with past and present GHG emissions related to our operations and the use of the products we have manufactured.

As such, climate litigation constitutes a material risk for the company and its investors. In case the Company is condemned to reduce its GHG emissions at a much faster rate than planned by management or to compensate for damage related to climate change due to ongoing or potential lawsuits, we could incur a material adverse effect on our results of operations and business’s prospects.

Asset managers, banks and other financing institutions have been increasingly adopting ESG criteria in their investment and financing decisions and this could reduce the attractiveness of our share or limit our ability to access the capital markets.

Many professional investors like asset managers, mutual funds, global allocation funds, generalist investors and pensions funds have been reducing their exposure to the fossil fuel industry due to the adoption of stricter ESG criteria in selecting investing opportunities. In some cases, those investors have adopted climate change targets in determining their policies of asset allocations. Many of them have announced plans to completely divest from the fossil fuel industry. This trend could reduce the market for our share and negatively affect shareholders’ returns. Likewise, banks, financing institutions, lenders and also insurance companies are cutting exposure to the fossil fuel industry due to the need to comply with ESG mandate or to reach emission reduction targets in their portfolios and this could limit our ability to access new financing, could drive a rise in borrowing costs to us or increase the costs of insuring our assets. During COP 26 at Glasgow (UK), 450 financial institutions, mostly banks and pension funds, in 45 countries with assets estimated at $130 trillion have committed to limiting greenhouse gas emitting assets in their portfolios. The finance pledge, known as the Glasgow Financial Alliance for Net Zero (GFANZ), will mean that by 2050 all the assets under management by the institutions that signed on can be counted toward a net-zero emission pathway. However, while this pledge does not preclude the continued funding of fossil fuels, as of recently several large, international financing institutions have taken a tougher approach as they announced they would not support direct financing to develop new oil and gas fields soon, a move that could herald an emerging trend among banks and lenders towards a phase-out of financing the hydrocarbons sector.

As a result of those developments, we expect the cost of capital to the Company to rise in the future and reduced ability on part of Eni to obtain financing for future projects in the oil&gas business or to obtain it at competitive rates, which may curb our investment opportunities or drive an increase in financing expenses, negatively affecting our results of operations and business prospects.

Activist shareholders have been increasingly pressuring oil&gas companies to accelerate the shift to renewable energies and to reduce CO_2 emissions and this may interfere with management's plans and lead to sub-optimal investment decisions

Shareholders and activist funds may have resolutions passed at annual general meetings of listed oil&gas companies, which would force management to implement faster than planned actions to curb emissions or to revise industrial plans to obtain a quicker pace of emissions reduction and that could interfere with management's long-term goals, strategies and capital allocation processes leading to unplanned cost increases and sub-optimal investment decisions. For example, in 2021, activist shareholders succeeded in passing a nonbinding shareholders resolution to force Chevron into cutting its carbon emissions, including those relating to the products the company sells to its customers. Similar resolutions were also approved at other US oil&gas companies.

Meanwhile, an activist hedge fund conducted a successful proxy fight at ExxonMobil and won a seat in its board of directors. This will likely lead to greater scrutiny of the company strategies and capital allocation plans by the board.

More recently, activist investors have pursued claims against oil&gas companies. In UK, a group of institutional investors have brought a lawsuit against the board of directors of an oil&gas company over alleged climate mismanagement, arguing that directors failed to manage the material and foreseeable risks posed to the company by climate change, and as such they were breaking company law.

It is the first, notable lawsuit by a shareholder against a board over the alleged failure to properly prepare for a shift away from fossil fuels.

These events underscore the growing pressure from investors and capital markets on oil&gas companies towards a future based on renewables energies and an acceleration in the phase-out of investments into fossil fuels. We believe that our company could be exposed to that kind of risk.

Extreme weather phenomena, which has been widely recognized as a direct consequence of climate change, may disrupt our operations

The scientific community has concluded that increasing global average temperature produces significant physical effects, such as the increased frequency and severity of hurricanes, storms, droughts, floods, or other extreme climatic events that could interfere with Eni's operations and damage Eni's facilities. Extreme and unpredictable weather phenomena can result in material disruption to Eni's operations, and consequent loss of or damage to properties and facilities, as well as a loss of output, loss of revenues, increasing maintenance and repair expenses and cash flow shortfall.

We are exposed to reputational risks in connection with the public perception of oil&gas companies as entities primarily responsible for the climate change

There is a reputational risk linked to the fact that oil companies are increasingly perceived by governments, financial institutions and the general public as entities primarily responsible for global warming due to GHG emissions across the hydrocarbon value chain, particularly related to the use of energy products, and as poorly-performing players alongside ESG dimensions. This could possibly impair the company reputation and a societally recognized mission to operate in the e&p area. . This could also make Eni's shares and debt instruments less attractive to banks, funds and individual investors who have been increasingly applying ESG criteria and have been growing cautions in assessing the risk profile of oil and gas companies, due to their carbon footprint, when making investment and lending decisions.

As a result of these trends, climate-related risks could have a material and adverse effect on the Group's results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends and the price of Eni's shares.

Environmental, legal, IT and financial risks

a) Eni is exposed to the risk of material environmental liabilities in addition to the provisions already accrued in the consolidated financial statement.

Eni has incurred in the past and may incur in the future material environmental liabilities in connection with the environmental impact of its past and present industrial activities. Eni is also exposed to claims under environmental requirements and, from time to time, such claims have been made against the Company. Furthermore, environmental regulations in Italy and elsewhere typically impose strict liability. Strict liability means that in some situations Eni could be exposed to liability for clean-up and remediation costs, environmental damage, and other damages as a result of Eni’s conduct of operations that was lawful at the time it occurred or of the management of industrial hubs by prior operators or other third parties, who were subsequently taken over by Eni. In addition, plaintiffs may seek to obtain compensation for damage resulting from events of contamination and pollution or in case the Company is found liable for violations of any environmental laws or regulations. In Italy, Eni is exposed to the risk of expenses and environmental liabilities in connection with the impact of its past activities at certain industrial hubs where the Group’s products were produced, processed, stored, distributed, or sold, such as chemical plants, mineral-metallurgic plants, refineries, and other facilities, which were subsequently disposed of, liquidated, closed, or shut down. At these industrial hubs, Eni has undertaken several initiatives to remediate and clean up proprietary or concession areas that were allegedly contaminated and polluted by the Group’s industrial activities. State or local public administrations have sued Eni for environmental and other damages and for clean-up and remediation measures in addition to those which were performed by the Company, or which the Company has committed to performing. In some cases, Eni has been sued for alleged breach of criminal laws (for example for alleged environmental crimes such as failure to perform soil or groundwater reclamation, environmental disaster and contamination, discharge of toxic materials, amongst others). Although Eni believes that it may not be held liable for having exceeded in the past pollution thresholds that are unlawful according to current regulations, but were allowed by laws then effective, or because the Group took over operations from third parties, it cannot be excluded that Eni could potentially incur such environmental liabilities. Eni’s financial statements account for provisions relating to the costs to be incurred with respect to clean ups and remediation of contaminated areas and groundwater for which legal or constructive obligations exist and the associated costs can be reasonably estimated in a reliable manner, regardless of any previous liability attributable to other parties. In 2022, due to environmental regulation development setting more clear criteria concerning the recovery management of groundwater pollutants, and taking into account the expertise cumulated in years of environmental management, the Group was in position to reliably accrue a provision of about €1.3 billion to account for the future expected costs of completing ongoing cleanup of groundwater at a number of Italian hubs, where operations were shut down years ago. The accrued amounts of the existing environmental risk provision represent management’s best estimates of the Company’s existing liabilities for future remediation and clean-up of Eni’s shut-down Italian sites.

Management believes that it is possible that in the future Eni may incur significant or material environmental expenses and liabilities in addition to the amounts already accrued due to: (i) the likelihood of as yet unknown contamination; (ii) the results of ongoing surveys or surveys to be carried out on the environmental status of certain Eni’s industrial sites as required by the applicable regulations on contaminated sites; (iii) unfavourable developments in ongoing litigation on the environmental status of certain of the Company’s sites where a number of public administrations, the Italian Ministry of the Environment or third parties are claiming compensation for environmental or other damages such as damages to people’s health and loss of property value; (iv) the possibility that new litigation might arise; (v) the probability that new and stricter environmental laws might be implemented; and (vi) the circumstance that the extent and cost of environmental restoration and remediation programs are often inherently difficult to estimate leading to underestimation of the future costs of remediation and restoration, as well as unforeseen adverse developments both in the final remediation costs and with respect to the final liability allocation among the various parties involved at the sites. As a result of these risks, environmental liabilities could be substantial and could have a material adverse effect on the Group’s results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s shares.

Finally, in case of conviction of Eni’s employees for environmental crimes, the Company could be held liable as per Italian Legislative Decree 231/2001 which states the responsibility of legal entities for certain violations of laws committed by their employees and could face fines and restrictive measures to perform industrial activities which could adversely and significantly affect results of operations, cash flows and the Company’s reputation.

b) Risks related to legal proceedings and compliance with anti-corruption legislation

Eni is the defendant in a number of civil and criminal actions and administrative proceedings. In future years Eni may incur significant losses due to: (i) uncertainty regarding the final outcome of each proceeding; (ii) the occurrence of new developments that management could not take into consideration when evaluating the likely outcome of each proceeding in order to accrue the risk provisions as of the date of the latest financial statements or to judge a negative outcome only as possible or to conclude that a contingency loss could not be estimated reliably; (iii) the emergence of new evidence and information; and (iv) underestimation of probable future losses due to circumstances that are often inherently difficult to estimate. Certain legal proceedings and investigations in which Eni or its subsidiaries or its officers and employees are defendants involve the alleged breach of anti-bribery and anti-corruption laws and regulations and other ethical misconduct. Such proceedings are described in the notes to the condensed consolidated interim financial statements, under the heading “Legal Proceedings”. Ethical misconduct and noncompliance with applicable laws and regulations, including noncompliance with anti-bribery and anti-corruption laws, by Eni, its officers and employees, its partners, agents or others that act on the Group’s behalf, could expose Eni and its employees to criminal and civil penalties and could be damaging to Eni’s reputation and shareholder value.

c) Risks from acquisitions

Eni is constantly monitoring the market in search of opportunities to acquire individual assets or companies with a view of achieving its growth targets or complementing its asset portfolio. Acquisitions entail an execution risk – the risk that the acquirer will not be able to effectively integrate the purchased assets to achieve expected synergies. In addition, acquisitions entail a financial risk – the risk of not being able to recover the purchase costs of acquired assets, in case of a prolonged decline in the market prices of commodities. Eni may also incur unanticipated costs or assume unexpected liabilities and losses in connection with companies or assets it acquires. If the integration and financial risks related to acquisitions materialize, expected synergies from acquisition may fall short of management’s targets and Eni’s financial performance and shareholders’ returns may be adversely affected.

d) Eni’s crisis management systems may be ineffective

Eni has developed contingency plans to continue or recover operations following a disruption or incident. An inability to restore or replace critical capacity to an agreed level within an agreed period could prolong the impact of any disruption and could severely affect business, operations and financial results. Eni has crisis management plans and the capability to deal with emergencies at every level of its operations. If Eni does not respond or is not seen to respond in an appropriate manner to either an external or internal crisis, this could adversely impact the Group’s results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s shares.

e) Disruption to or breaches of Eni’s critical IT services or digital infrastructure and security systems could adversely affect the Group’s business, increase costs and damage Eni’s reputation

The Group’s activities depend heavily on the reliability and security of its information technology (IT) systems and digital security. The Group’s IT systems, some of which are managed by third parties, are susceptible to being compromised, damaged, disrupted or shutdown due to failures during the process of upgrading or replacing software, databases or components, power or network outages, hardware failures, cyberattacks (viruses, computer intrusions), user errors or natural disasters. The cyber threat is constantly evolving. The oil and gas industry is subject to fast-evolving risks from cyber threat actors, including nation states, criminals, terrorists, hacktivists and insiders. Attacks are becoming more sophisticated with regularly renewed techniques while the digital transformation amplifies exposure to these cyber threats. The adoption of new technologies, such as the Internet of Things (IoT) or the migration to the cloud, as well as the evolution of architectures for increasingly interconnected systems, are all areas where cyber security is a very important issue. The Group and its service providers may not be able to prevent third parties from breaking into the Group’s IT systems, disrupting business operations or communications infrastructure through denial of service, attacks, or gaining access to confidential or sensitive information held in the system. The Group, like many companies, has been and expects to continue to be the target of attempted cybersecurity attacks. While the Group has not experienced any such attack that has had a material impact on its business, the Group cannot guarantee that its security measures will be sufficient to prevent a material disruption, breach or compromise in the future. As a result, the Group’s activities and assets could sustain serious damage, services to clients could be interrupted, material intellectual property could be divulged and, in some cases, personal injury, property damage, environmental harm and regulatory violations could occur. If any of the risks set out above materialise, they could adversely impact the Group’s results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s share.

f) Violations of data protection laws carry fines and expose the Company and/or its employees to criminal sanctions and civil suits.

Data protection laws and regulations apply to Eni and its joint ventures and associates in the vast majority of countries in which they do business. The General Data Protection Regulation (EU) 2016/679 (GDPR) came into effect in May 2018 and increased penalties up to a maximum of 4% of global annual turnover for breach of the regulation. The GDPR requires mandatory breach notification, a standard also followed outside of the EU (particularly in Asia). Non-compliance with data protection laws could expose Eni to regulatory investigations, which could result in fines and penalties as well as harm the Company’s reputation. In addition to imposing fines, regulators may also issue orders to stop processing personal data, which could disrupt operations. The Company could also be subject to litigation from persons or corporations allegedly affected by data protection violations. Violation of data protection laws is a criminal offence in some countries, and individuals can be imprisoned or fined. If any of the risks set out above materialise, they could adversely impact the Group’s results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni’s shares.

g) Eni is exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk, commodity price risk and credit risk and may incur substantial losses in connection with those risks.

<u>Market risk</u>

Eni’s business is exposed to the risk that changes in interest rates, foreign exchange rates or the prices of energy commodities and products will adversely affect the value of assets, liabilities or expected future cash flows.

The Group does not hedge its exposure to volatile hydrocarbons prices in its business of developing and extracting hydrocarbons reserves and other types of commodity exposures (e.g. exposure to the volatility of refining margins and of certain portions of the gas long-term supply portfolio) except for specific markets or business conditions. The Group has established risk management procedures and enters derivatives commodity contracts to hedge exposure to the commodity risk relating to commercial activities, which derives from different indexation formulas between purchase and selling prices of commodities. However, hedging may not function as expected. In addition, Eni undertakes commodity trading to optimize commercial margins or with a view of profiting from expected movements in market prices. Although Eni believes it has established sound risk management procedures to monitor and control commodity trading, this activity involves elements of forecasting and Eni is exposed to the risk of incurring significant losses if prices develop contrary to management expectations and to the risk of default of counterparties.

Eni is exposed to the risks of unfavorable movements in exchange rates primarily because Eni’s consolidated financial statements are prepared in Euros, whereas Eni’s main subsidiaries in the Exploration & Production sector are utilizing the U.S. dollar as their functional currency. This translation risk is unhedged.

Furthermore, Eni’s euro-denominated subsidiaries incur revenues and expenses in currencies other than the euro or are otherwise exposed to currency fluctuations because prices of oil, natural gas and refined products generally are denominated in, or linked to, the U.S. dollar, while a significant portion of Eni’s expenses are incurred in euros and because movements in exchange rates may negatively affect the fair value of assets and liabilities denominated in currencies other than the euro. Therefore, movements in the U.S. dollar (or other foreign currencies) exchange rate versus the euro affect results of operations and cash flows and year-on-year comparability of the performance. These exposures are normally pooled at Group level and net exposures to exchange rate volatility are netted on the marketplace using derivative transactions. However, the effectiveness of such hedging activity is uncertain, and the Company may incur losses also of significant amounts. As a rule of thumb, a depreciation of the U.S. dollar against the euro generally has an adverse impact on Eni’s results of operations and liquidity because it reduces booked revenues by an amount greater than the decrease in U.S. dollar-denominated expenses and may also result in significant translation adjustments that impact Eni’s shareholders’ equity.

Eni is exposed to fluctuations in interest rates that may affect the fair value of Eni's financial assets and liabilities as well as the amount of finance expense recorded through profit. Eni enters into derivative transactions with the purpose of minimizing its exposure to the interest rate risk.

Eni's credit ratings are potentially exposed to risk from possible reductions of the sovereign credit rating of Italy. Based on the methodologies used by Standard & Poor's and Moody's, a potential downgrade of Italy's credit rating may have a potential knock-on effect on the credit rating of Italian issuers such as Eni and make it more likely that the credit rating of the debt instruments issued by the Company could be downgraded.

Credit risk

Eni is exposed to credit risk. Eni's counterparties could default, could be unable to pay the amounts owed to it in a timely manner or meet their performance obligations under contractual arrangements. These events could cause the Company to recognize loss provisions with respect to amounts owed to it by debtors of the Company and cash flow shortfall. In recent years, the Group has experienced a significant level of counterparty default due to Europe and Italy's weak economic growth and a downturn in crude oil prices affecting the solvency of national oil entities and local companies, which are joint operators of Eni-lead projects. Those trends were made worse by the COVID-19 recession, resulting in a significantly deteriorated credit and financial profile of many of Eni's counterparties, including joint operators and national oil companies in Eni's upstream projects, retail customers in the gas retail business and other industrial accounts. In 2022, the significant rise in the prices of energy commodities has increased Eni's exposure to the credit risk in the mid and downstream businesses of natural gas. The retail gas & power business managed by Plenitude is particularly exposed to the credit risk due to its large and diversified customer base, which includes thousands of medium and small-sized businesses and retail customers whose financial condition has been negatively and adversely affected because the value of invoices has risen manyfold putting at stress the ability of our counterparts to pay amounts owed to us. Also, certain large industrial accounts at our wholesale natural gas business have been facing difficulties at paying amounts due to us. Due to that trend, we increased our credit loss provisions in 2022. It is possible that the ability of our debtors to pay amounts due to us will deteriorate in the next future, especially in case of a continuing uptrend in the prices of energy commodities. Furthermore, we are exposed to risks of growing working capital needs in case regulatory authorities introduce measures intended to safeguard households and other residential customers by mandating us to extend payment terms.

Eni believes that the management of doubtful accounts in the current environment of surging energy prices represents a significant financial risk to the Company, which will require management focus and commitment going forward. Eni cannot exclude the recognition of significant provisions for doubtful accounts in future reporting periods and increasing working capital needs.

If any of the risks set out above materializes, this could adversely impact the Group's results of operations, cash flow, liquidity, business prospects, financial condition, and shareholder returns, including dividends, the amount of funds available for stock repurchases and the price of Eni's shares.

Liquidity risk

Liquidity risk is the risk that suitable sources of funding for the Group may not be available, or that the Group is unable to sell its assets on the marketplace to meet short-term financial requirements and to settle obligations. Such a situation would negatively affect the Group's results of operations and cash flows as it would result in Eni incurring higher borrowing expenses to meet its obligations or, under the worst conditions, the inability of Eni to continue as a going concern. Global financial markets are volatile due to several macroeconomic risk factors and unpredictable developments. In case new restrictive measures in response to a resurgence of the pandemic or the war in Ukraine lead to a double-dip in economic activity and energy demand, in the event of extended periods of constraints in the financial markets, or if Eni is unable to access the financial markets (including cases where this is due to Eni's financial position or market sentiment as to Eni's prospects) at a time when cash flows from Eni's business operations may be under pressure, the Company may incur significantly higher borrowing costs than in the past or difficulties obtaining the necessary financial resources to fund Eni's development plans, therefore jeopardizing Eni's ability to maintain long-term investment programs. A reduction in the investments needed to develop Eni's reserves and to grow the business may significantly and negatively affect Eni's business prospects, results of operations and cash flows, and may impact shareholder returns, including dividends or share price.

Item 4. INFORMATION ON THE COMPANY

History and development of the Company

Eni, the former Ente Nazionale Idrocarburi, a public law agency, established by Law No. 136 of February 10, 1953, was transformed into a joint stock company by Law Decree No. 333 published in the Official Gazette of the Republic of Italy No. 162 of July 11, 1992 (converted into law on August 8, 1992, by Law No. 359, published in the Official Gazette of the Republic of Italy No. 190 of August 13, 1992). The Shareholders' Meeting of August 7, 1992 resolved that the company be called Eni SpA. Eni is registered at the Companies Register of Rome, register tax identification number 00484960588, R.E.A. Rome No. 756453. Eni is expected to remain in existence until December 31, 2100; its duration can however be extended by resolution of the shareholders.

The name of the agent of Eni in the United States is Marco Margheri, Washington DC – USA 601, 13th street, NW 20005.

The Company engages in producing and selling energy products and services to worldwide markets, with operations in the traditional businesses of exploring for, developing, extracting and marketing crude oil and natural gas, manufacturing and marketing oil-based fuels and chemicals products and gas-fired power as well as energy products from renewable sources. The company is implementing a strategy designed to reduce in the long term its dependence on hydrocarbons and to increase the weight of decarbonized products in its portfolio with the aim of reaching the target of net-zero greenhouse gas emissions by 2050 to pursue the most ambitious target of the Paris Agreement to limit global average temperature increase to 1.5°C by the end of the century. Management believes this strategic shift away from traditional hydrocarbons will place the Company in a very competitive position in the market for the supply of de-carbonized products, combining value creation, business sustainability and economic and financial robustness, lessening the Company's dependence on the volatility of the results of the hydrocarbons businesses. To execute this strategy, the Company has established two business Groups.

The Natural Resources Business Group is committed to build up in a sustainable way, the value of Eni's Oil & Gas upstream portfolio, with the objective of reducing its carbon footprint by scaling up energy efficiency and expanding production in the natural gas business, and its position in the wholesale market. Furthermore, it is focused on the development of projects to capture and store CO_2 emissions and of carbon sink, mainly through initiatives of Natural Climate Solutions like the projects for forests conservation and rehabilitation, carried out mostly in developing Countries, that qualify as REDD+ projects.

The Energy Evolution Business Group is engaged in the evolution of the businesses of power generation, transformation and marketing of products from fossil to bio, blue and green. In particular, it is focused on growing power generation from renewable energy and biomethane, it coordinates the bio and circular evolution of the Company's refining system and chemical business, and it further develops Eni's retail portfolio, providing increasingly more decarbonized products for mobility, household consumption and small enterprises. The Business Group includes results of the Refining & Marketing business, the chemical business managed by Versalis SpA and its subsidiaries, the Eni Plenitude SpA Società Benefit ("Plenitude") which combines renewables generation, gas and power retail and business customers, electric vehicle charging and energy services in a unique business model. In addition to these activities, this business Group include the results of power generation from thermoelectric plants and the activities of environmental reclamation and requalification implemented by the subsidiary company Eni Rewind.

For IFRS segmental reporting purposes, Eni's principal segments of operations are described below:

- Exploration & Production, which also comprises the economics of the forestry projects (REDD+) and projects for CO_2 capture and storage and/or utilization. Eni's Exploration & Production segment engages in oil and natural gas exploration and field development and production, as well as in LNG operations, in 37 countries, most notably Italy, Libya, Egypt, Norway, the United Kingdom, Angola, Congo, Nigeria, Mexico, the United States, Kazakhstan, Algeria, Iraq, Indonesia, Ghana, Mozambique, Qatar, Ivory Coast and United Arab Emirates. In 2022, Eni's average daily production amounted to 1,487 KBOE/d on an available- for-sale basis. As of December 31, 2022, Eni's total proved reserves amounted to 6,614 mmBOE, which include subsidiary undertakings and proportionally consolidated entities and Eni's share of reserves of equity-accounted joint ventures and associates.
- Global Gas & LNG Portfolio: engages in the wholesale activity of supplying and selling natural gas via pipeline and LNG, and the international transport activity. It also comprises gas trading activities targeting both hedging and stabilizing the Group's commercial margins and optimizing the gas asset portfolio. In 2022, Eni's worldwide sales of natural gas amounted to 60.52 BCM, of which 30.67 BCM was in Italy. The LNG business includes the purchase and marketing of LNG worldwide, with a large proportion of equity LNG supplies.