
How to approach rising energy costs



Agenda

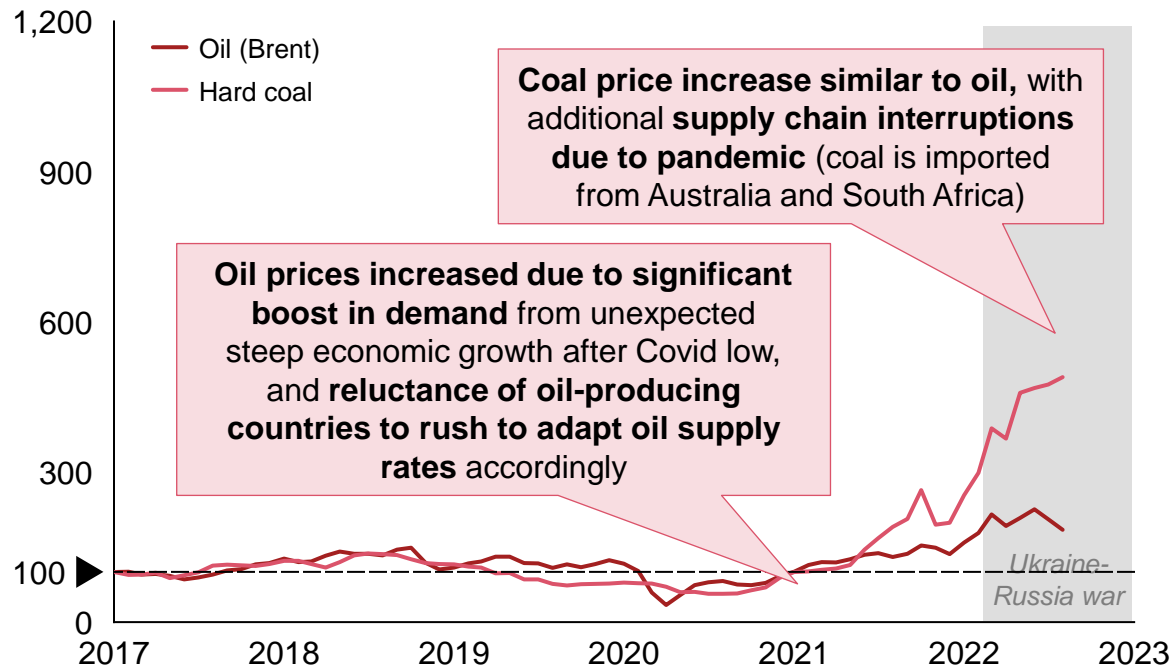
An aerial photograph of an industrial facility, likely a refinery or chemical plant. The image shows a complex arrangement of numerous circular storage tanks, some of which are highlighted in a light blue color. The tanks are organized into rows and columns, with various pipes and walkways connecting them. In the foreground, there are large, shallow basins or ponds, possibly for water treatment or storage. The overall scene is a detailed view of industrial infrastructure.

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- 1 EU energy crisis
 - 2 Industry position
 - 3 Strategy
 - 4 Implementation
 - 5 Recommendations

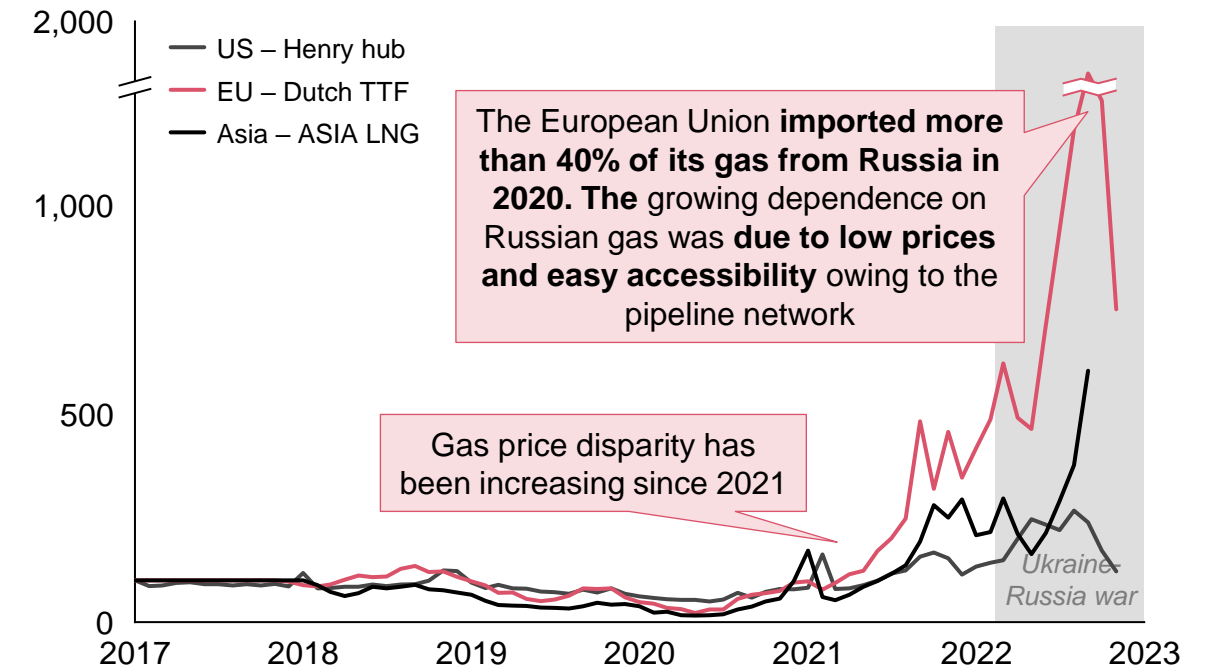
Energy prices are rising across the globe, but have most significantly affected Europe due to the closure of Russian pipelines

1 Global energy prices

Price index of fuel sources¹⁾ (2017-2022, Jan 2017=100)



Price index of natural gas²⁾ (2017-2022, Jan 2017=100)



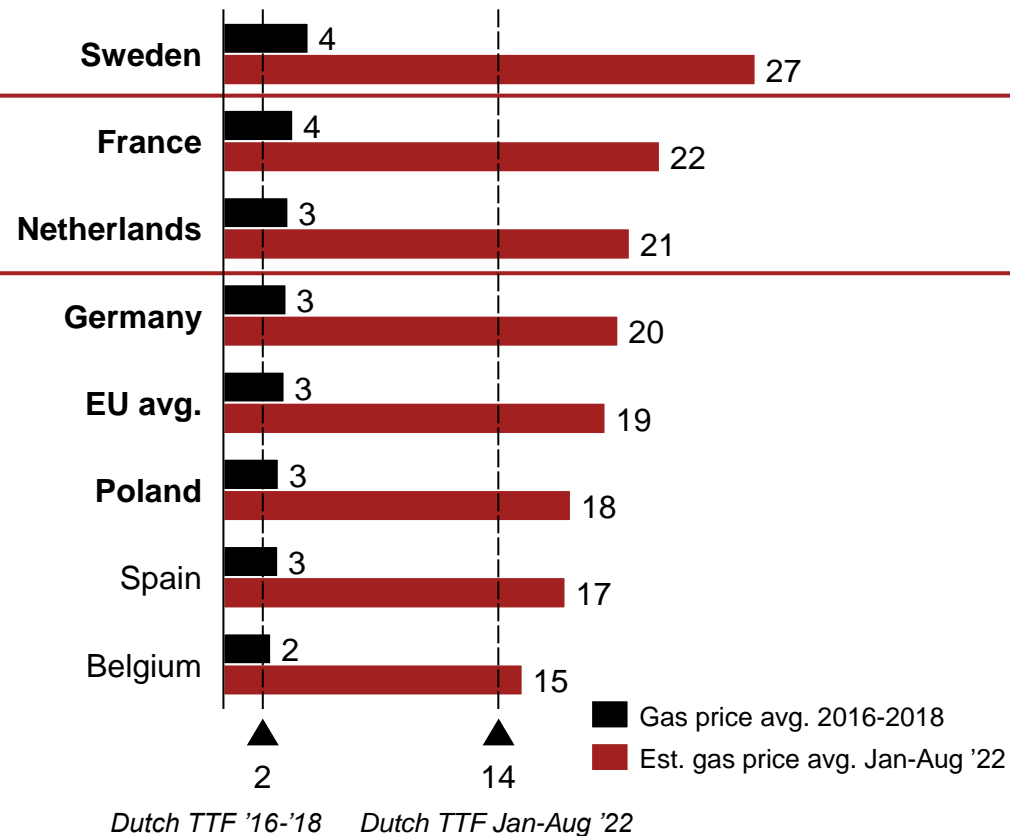
Energy prices are set to stabilize at a lower level within the next 2 years due to the growing penetration of renewable energy in the mix and a more diversified portfolio of sourcing options

1) Brent oil and coal price from Federal Reserve Bank of St. Louis 2) Gas prices from Dutch Title Transfer Facility
Source: Reuters, IEA, Strategy& analysis

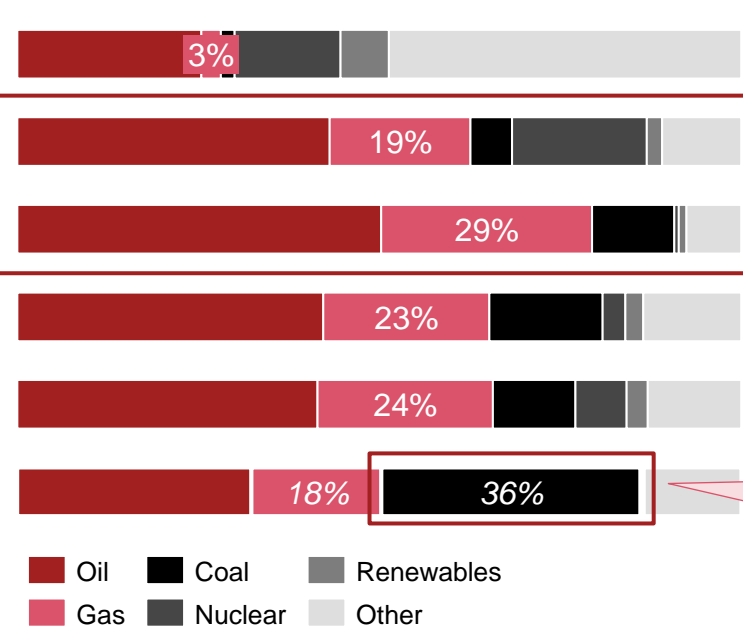
Rising natural gas prices do not affect every country the same way, with relative impact depending on both price and energy mix

1 Energy crisis-impact: EU industrial natural gas price

Industrial natural gas price by country¹⁾ (EUR cents/KWh)



Total energy mix for select countries²⁾ (%)



France and the Netherlands both have high gas prices, but there is a significant disparity in the **proportion of natural gas in their respective energy mix**

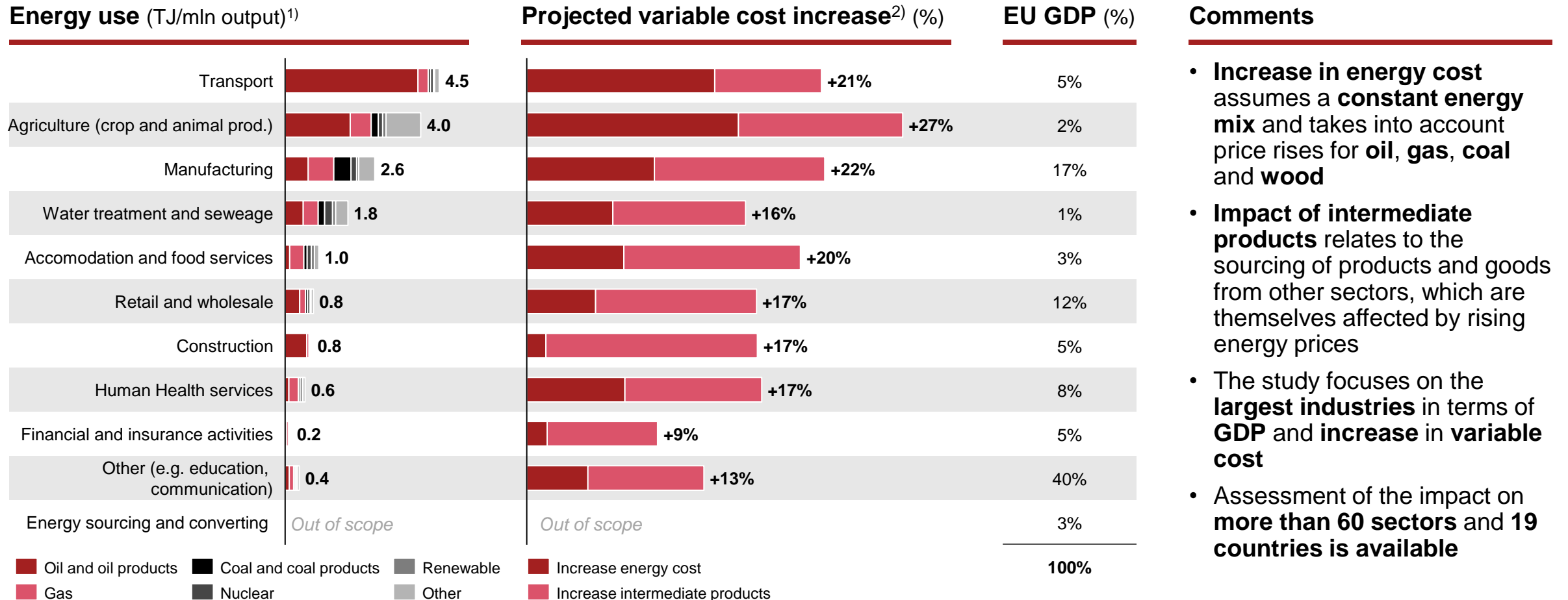
Poland has also faced concerns over high natural gas prices, but has been disproportionately affected by rising global coal prices

EU countries have been affected to a varying extent depending on historic gas contracts, transport capacity constraints, access to alternative fuel, and government taxes

1) Industrial natural gas price includes non-recoverable taxes and levies. 2022 gas prices are estimated by extrapolating the avg '16-'18 prices with the increase of the Dutch TTF price. Thereby it is assumed that levies and taxes scale with price. This price is used to show the full impact – real gas prices may deviate because long contracts are in place, companies are hedged or due to local changes in regulations over the last months 2) Energy mix includes all electricity production and fuel use within the country. Data sourced from Strategy& energy model based on input from Eurostat. Source: Eurostat, desktop research, Strategy& analysis

Impact of rising energy prices in 2022 differs across sectors, depending on relative increases in energy cost and intermediate product prices

2 Energy crisis-impact: EU energy and variable costs

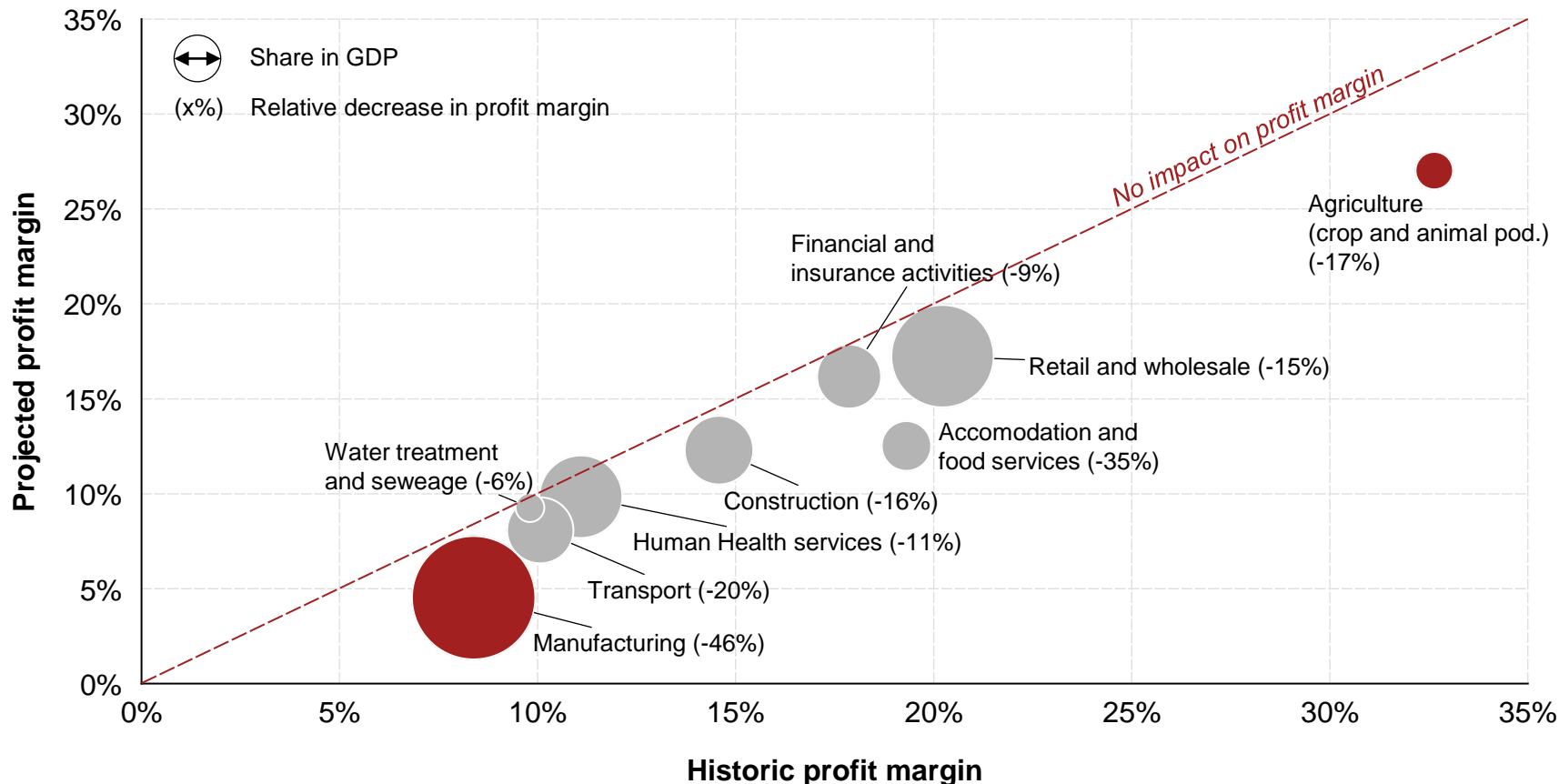


1) Energy sourcing and converting out of scope for this study. Data sourced from Strategy& energy model based on input from Eurostat. Methodology and sources available in the appendix. Select EU countries listed in appendix. Not all countries considered due to data quality issues
 Source: Strategy& analysis based on Eurostat data

Increase in energy prices will reduce profit margin across all sectors at EU level; the extent of impact depends on sector and country

2 Energy crisis-impact: EU profit margin impact

Projected profit margin impact (Projected and historic profit margin in %)



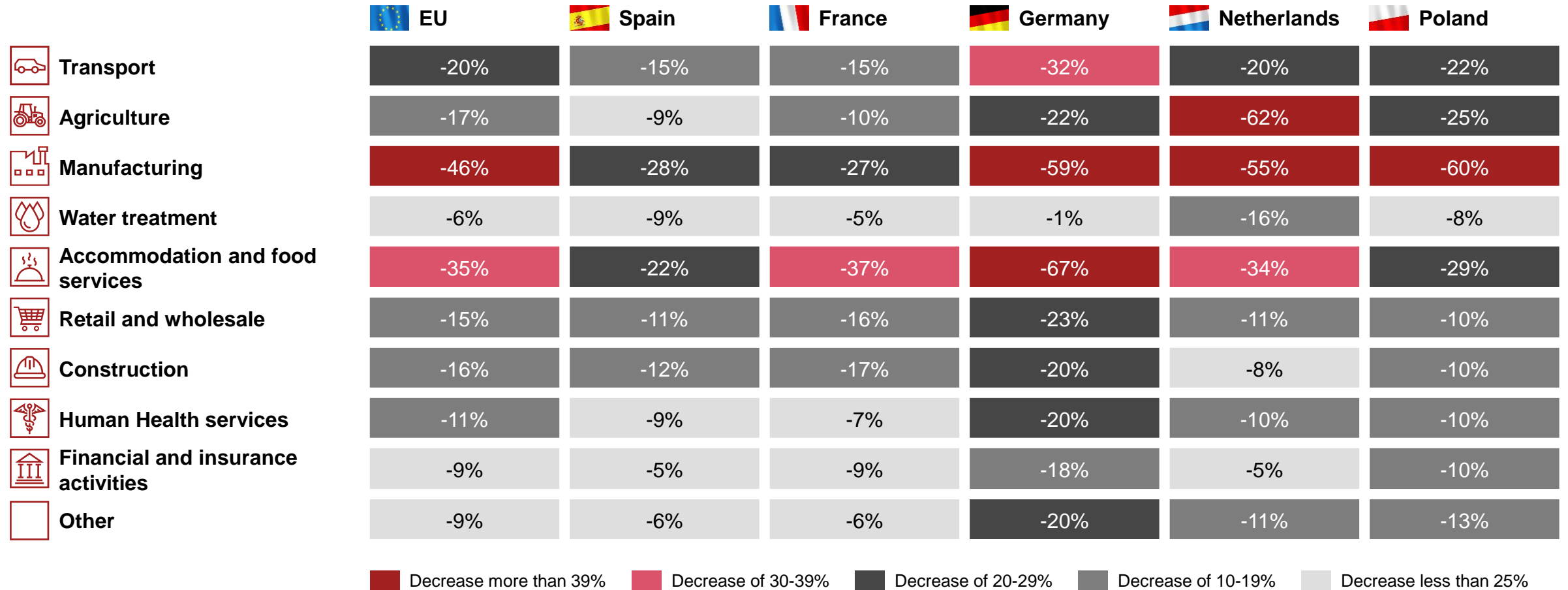
Comments

- Europe faces an overall **decline in profitability** of ~20% due to rising energy prices
- Manufacturing sector most endangered due to lower overall historic margins, leading to **high risk for countries with large manufacturing share of GDP**
- **Any decline in profitability is a risk** - the sector may become **less attractive for investors given the risk profile**
- European industries that focus on specialty or **high-quality products are not affected in the same way** due to higher profit margins and to cost structures based on R&D and process technology

Projected profit margin impact only considers decrease in revenue from reduced volumes and increase in energy related (direct and indirect) costs. Other costs such as cost of capital, workforce costs, non-energy related COGs costs, etc.
Source: Strategy& analysis based on Eurostat data

In terms of profit margin, increasing energy prices have had the greatest impact on manufacturing, especially in Germany, Netherlands and Poland

2 Energy crisis impact: Relative change in profit margin (%) by country





EU-based companies need to create or amend their energy strategy to take into consideration large price increases

3 Strategy&'s approach to energy crisis

Current dilemma

Strategy& recommended approach

Companies need to ask themselves....



Position:
What is my position?

- How are energy prices affecting your sector's direct and indirect costs, prices, volumes, and profitability?
- What will the impact of this crisis be in your country?
- What will the impact of this crisis be on your company's finances?

Determine current position within the energy crisis



Strategy:
How should I approach my energy strategy?

- What is your company's energy strategy?
- Are there other financial or sustainability strategies to consider that are specific to your company?
- How should your company develop or enhance its strategy based on its exposure and position?

Create tailored energy strategy based on industry and company positioning



Implementation:
Which implementation levers should be used?

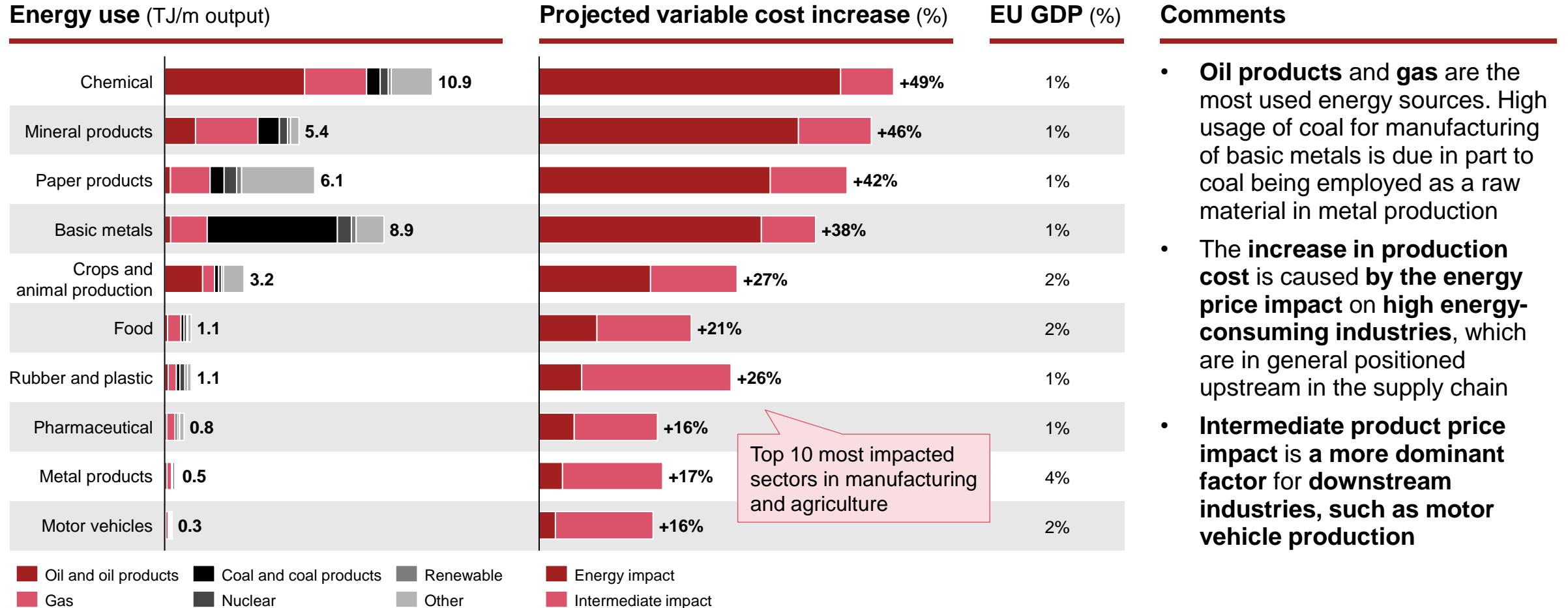
- How should your company respond in the short term?
- What plans should your company make in the long term?
- How does your company's ESG strategy fit?
- How can your company communicate this plan to the market?

Choose strategy-aligned implementation levers



In the EU, production cost increases in manufacturing and agriculture are significant due to both energy and intermediate product price rises

3 Energy crisis impact: EU energy and variable cost increase

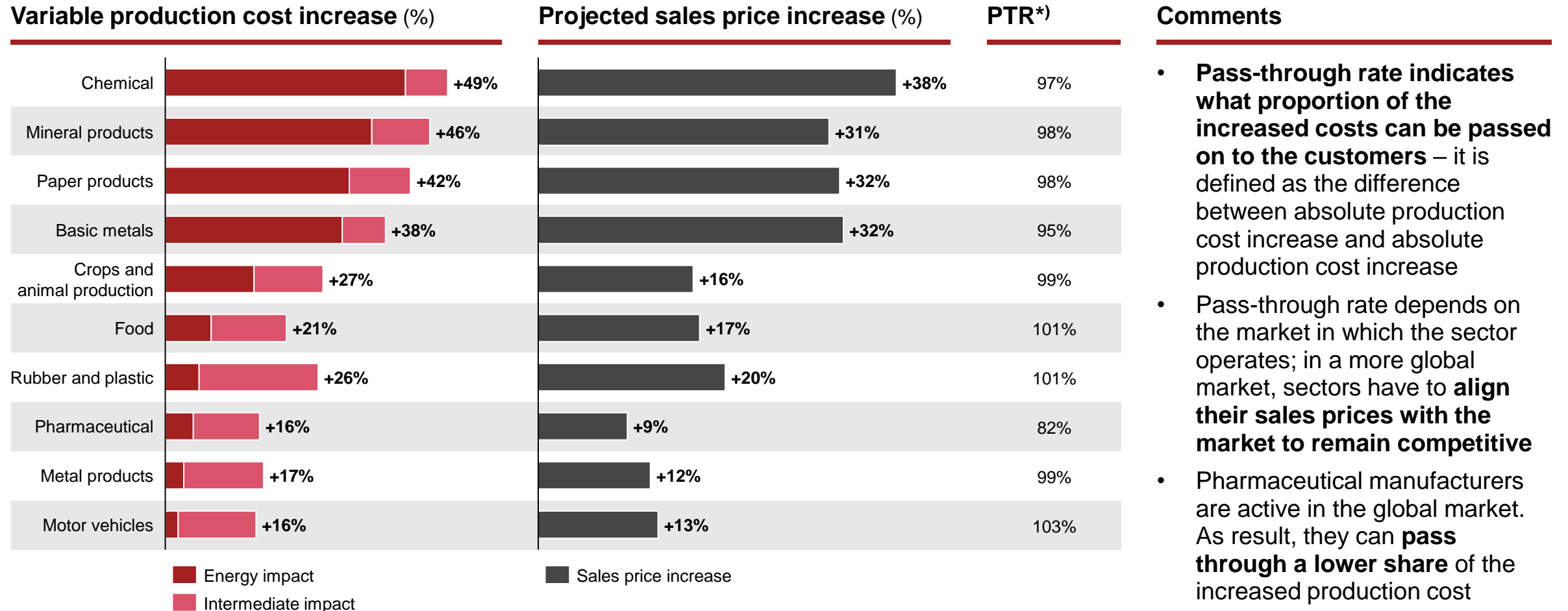


Data sourced from Strategy& energy model based on input from Eurostat. Methodology and sources available in the appendix. Select EU countries listed in appendix. Not all countries considered due to data quality issues
 Source: Strategy& analysis based on Eurostat data



Increasing production cost results in higher sales prices – relative impact depends on pass-through rate which varies per sector

3 Energy crisis impact: EU production costs increase



^{*)} Pass-through rate

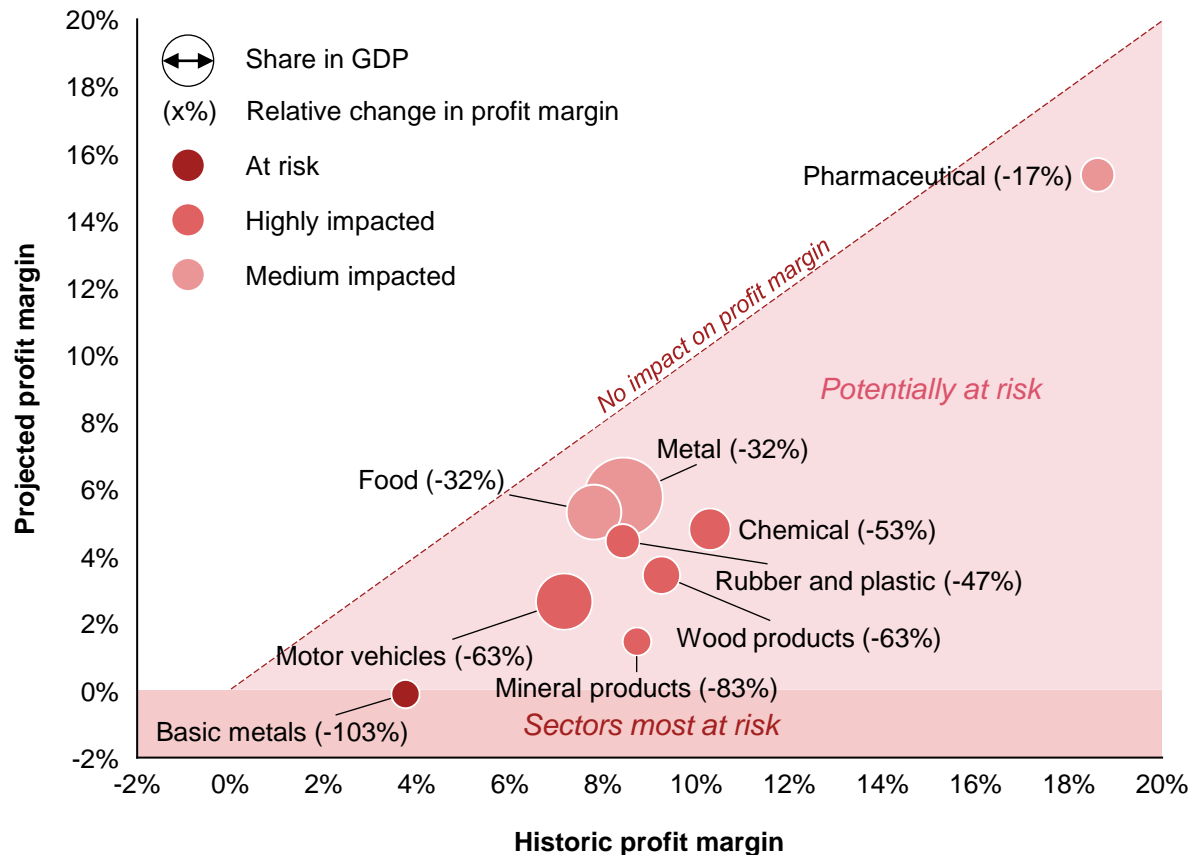
Source: Strategy& analysis based on Eurostat data



Manufacturing and agriculture profit margins fall across all sectors on the EU level, resulting in negative margins for basic metals

3 Energy crisis impact: EU profit margin

EU profit margin impact (Projected and historic profit margin, %)



Key takeaways

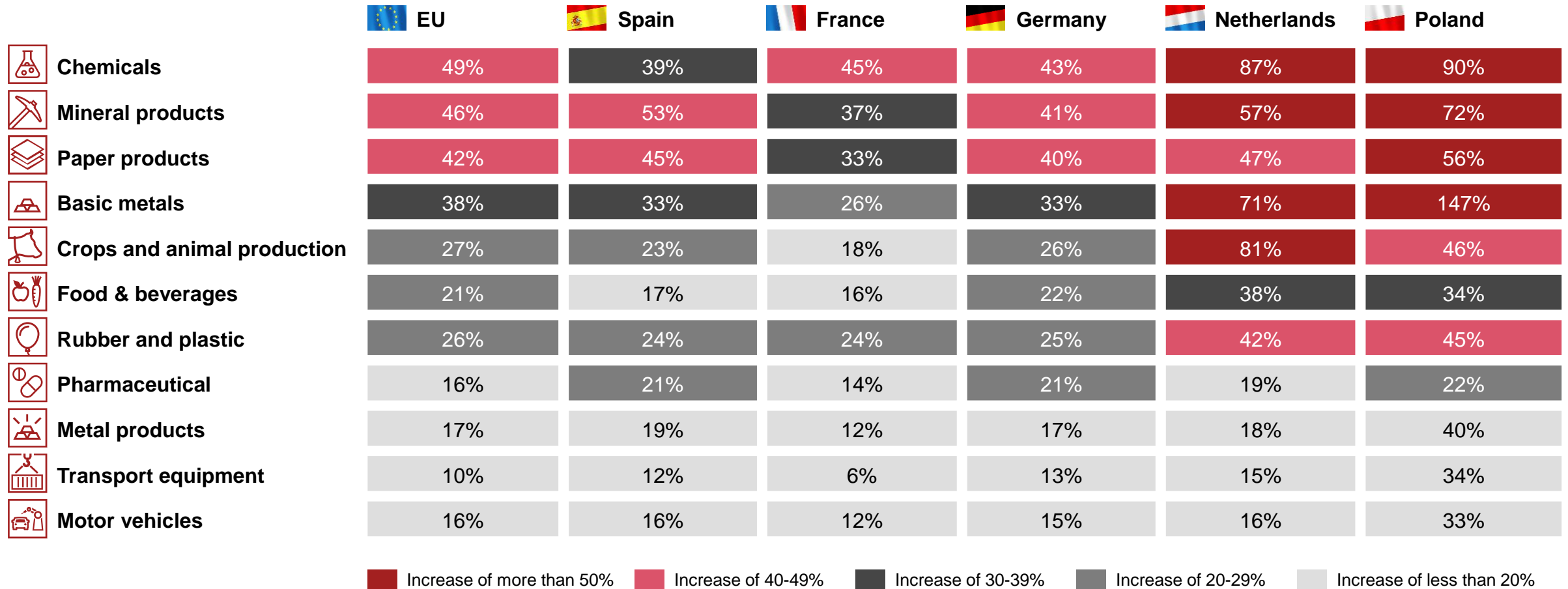
- At risk:** Basic metal production industries, such as **steel production, are most at risk**, facing a decline toward **negative profit margins**. Based on evidence from previous financial challenges within the sector, steel production may either be outsourced or will require significant investment in low-cost energy sources. **Massive government intervention is unavoidable.**
- High impact:** Sectors using a high amount of energy, such as chemicals and mineral products, will **need to take steps quickly to ensure profitability**, including the immediate introduction of energy-saving techniques and short-term switches in the production process. **Government intervention is crucial** in order to help fund energy reduction and decarbonization efforts.
- Medium impact:** The sectors with medium impact on profit margins still need to be aware of any shifts in the economy and still benefit from reducing exposure to energy markets.

Any decline in profitability is a threat due to the impact on the cost of capital, which is intended to reflect a normal return for the taken risk. Manufacturing represents a significant proportion of the EU's GDP, so long-term direct and indirect energy cost-saving programs should be implemented immediately.



Production costs increase significantly across European countries especially within the manufacturing sectors

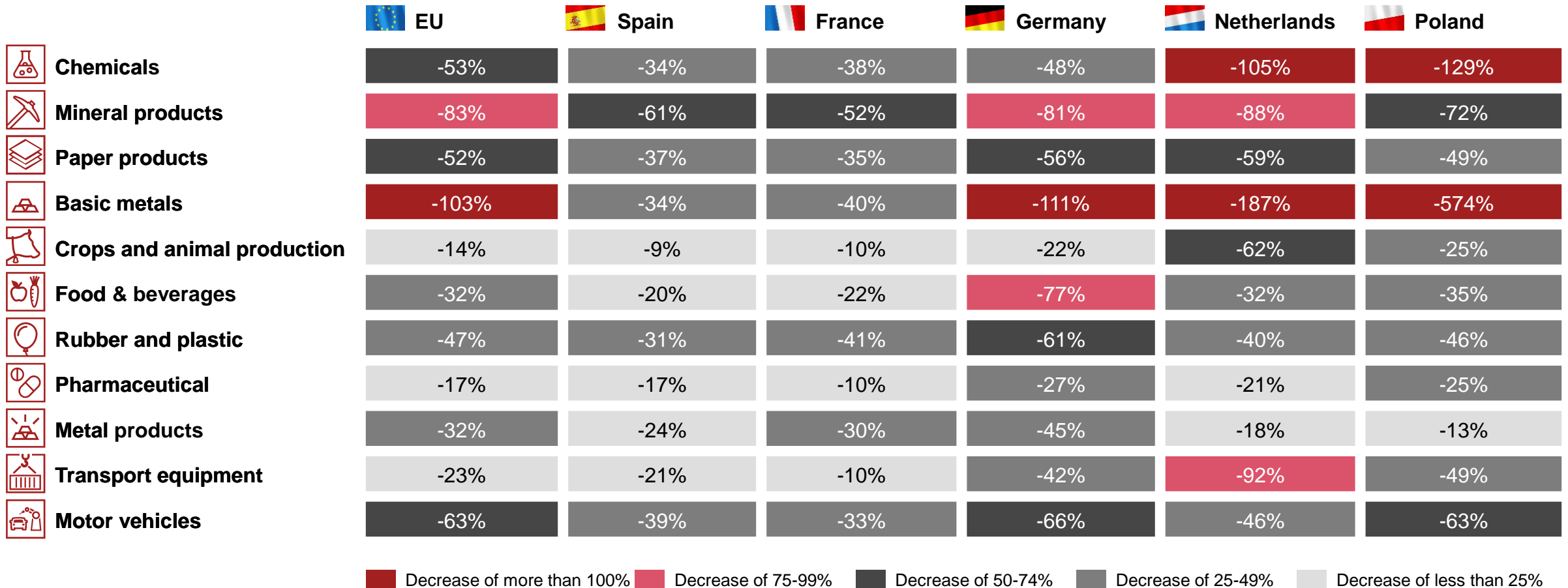
3 Energy crisis impact: Relative change in production cost (%) by country





Profit margins of chemical, basic metal and mineral product companies have been significantly affected in the Netherlands and Poland

3 Energy crisis impact: Relative change in profit margin (%) by country





The local energy mix and sourcing strategy in a given country determines the impact on different sectors

3 Energy crisis impact: How various EU countries are affected

On the whole, German variable production cost increases are slightly **below** EU average

- **High-risk sectors in Germany, e.g. basic metal production, which are experiencing a fall** toward negative profitability, are most likely to shift (parts) of production to countries with cheaper energy
- The production of **niche/specialty products** will be impacted by energy price increases as well, but profit margins are unlikely to be significantly hit (i.e. costs are largely driven by R&D rather than input costs)

Netherlands and Poland are **greatly affected** by the energy crisis

- Netherlands and Poland have suffered some of the highest increases in variable production costs, resulting in a **sharp fall toward negative profitability across key energy-intensive sectors**, including metals and chemicals; only a few sectors have seen an increase in production cost that is below the EU average
- Main reason for this can be **attributed to the energy mix** of the countries (PL with high reliance on fossil energy including coal; NL with high reliance on gas)

France and Spain have on average **lowest** variable production cost increases




- **France and Spain have no sectors at extreme risk** due to successful mitigation of the energy crisis, i.e. growing reliance on renewable energy, or high reliance on nuclear
- **High-energy sectors**, e.g. basic metals and chemicals, are **potentially at risk** if counteracting measures are not taken now

Due to the huge energy price increases, EU-based companies need to create or amend their energy strategy

4 Strategy&'s energy crisis approach

Current dilemma

Companies need to ask themselves....

 <p>Position: What is my position?</p>	<ul style="list-style-type: none"> • How are energy prices affecting your sector's direct and indirect costs, prices, volumes, and profitability? • What will the impact of this crisis be in your country? • What will the impact of this crisis be on your company's finances?
 <p>Strategy: How should I approach my energy strategy?</p>	<ul style="list-style-type: none"> • What is your company's energy strategy? • Are there other financial or sustainability strategies to consider that are specific to your company? • How should your company develop or enhance its strategy based on its exposure and position?
 <p>Implementation: Which implementation levers should be used?</p>	<ul style="list-style-type: none"> • How should your company respond in the short term? • What plans should your company make in the long term? • How does your company's ESG strategy fit? • How can your company communicate this plan to the market?

Strategy& recommended energy crisis approach

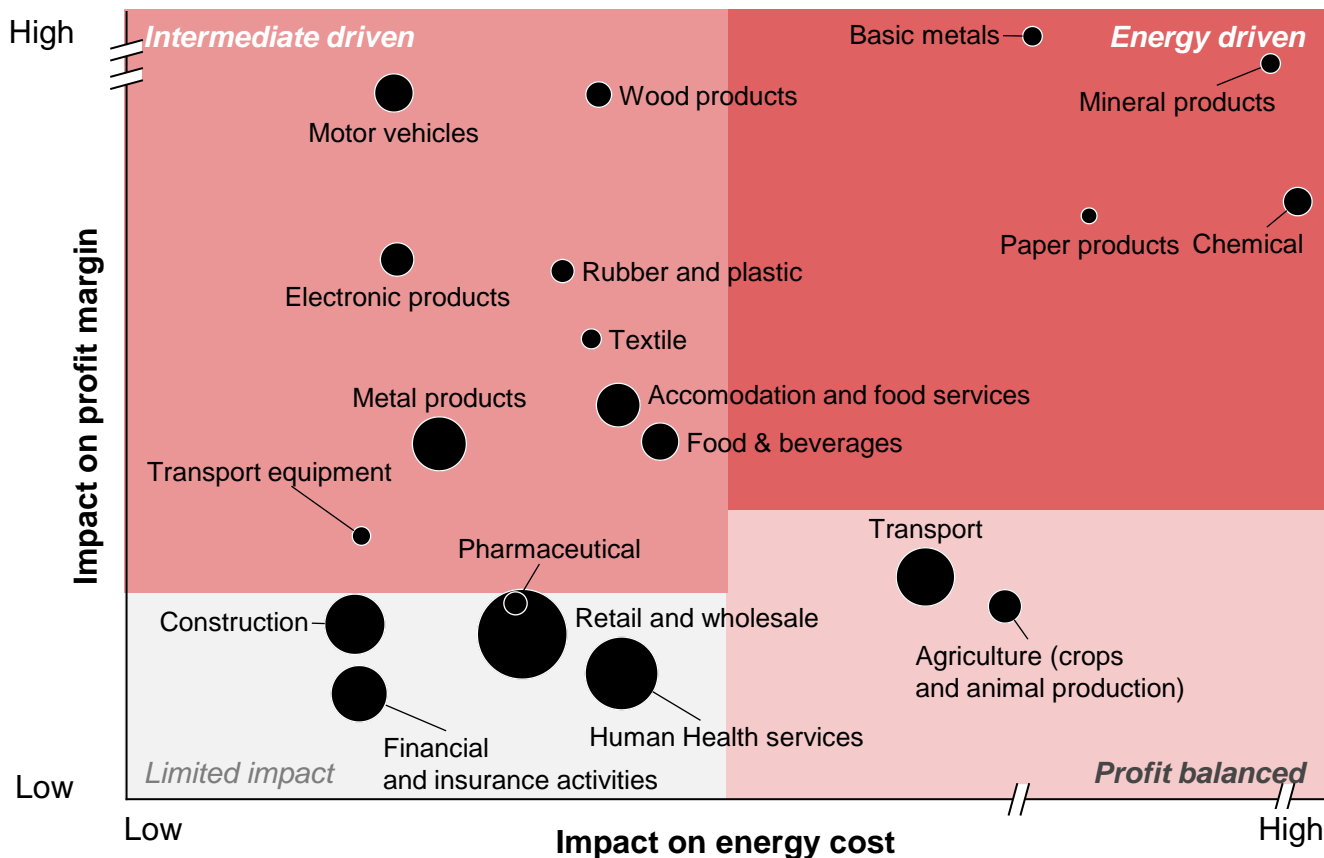
<p><i>Determine current position within the energy crisis</i></p>
<p>Create tailored energy strategy based on industry and company positioning</p>
<p>Choose strategy-aligned implementation levers</p>



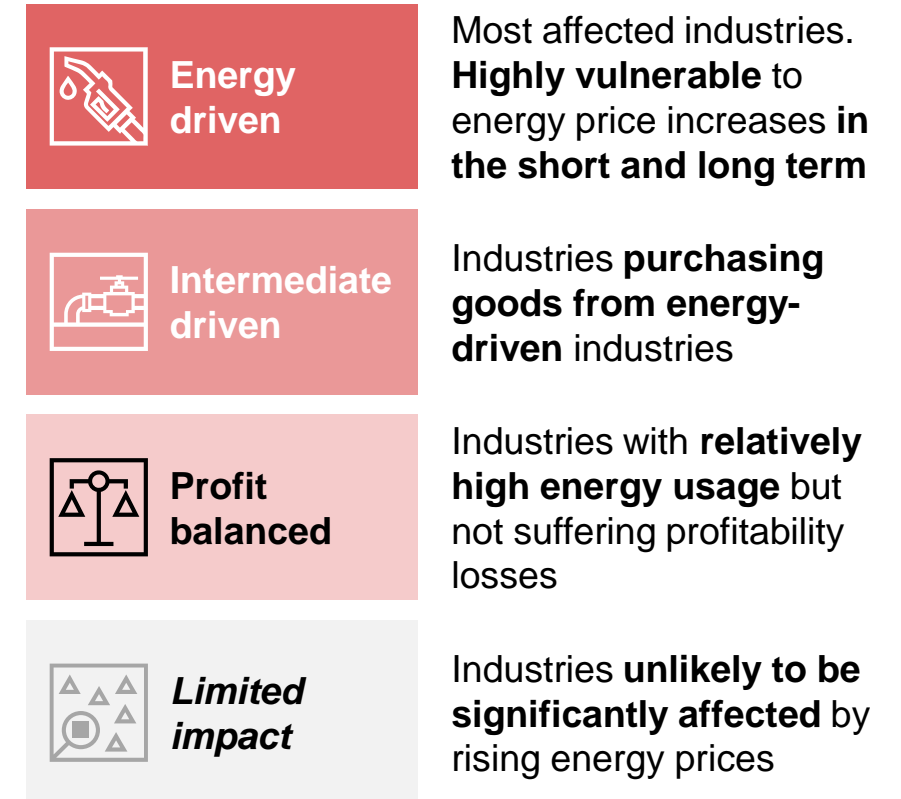
A company's position is dependent on energy consumption and impact on profits

4 Source: Strategy& Analysis based on Eurostat data

Energy crisis impact: Profitability v. energy usage (EU average)














































Energy crisis levers by industry archetype



Companies can deploy both energy and non-energy related levers in their strategy

4 Energy crisis levers

Energy-related levers

1	Efficiency 	Efficiency improvement	  
		Consumption reduction	  
2	Source 	Electrification	  
		Renewable energy	  
		Clean fuel	  
3	Optimisation 	Contract optimization	  
		Demand-side response	  
		Product redesign	  
		Production optimization	  
		Business model transformation	  
4	Cost and risk 	Close and restructure PPAs	  
		Energy hedging management	  
		Peak shaving	  

Non-energy levers

5	Pricing 	Price escalation clauses	  
		Forward-looking pricing	  
6	Support 	Collective procurement	  
		Government support	  
7	Diversify 	Additional suppliers	  
		Production locations diversification	  
8	General cost 	Operational excellence improvement	  
		Fixed cost management	  



Connecting **energy cost reduction** to your company's **ESG agenda** can enable better positioning in the long term including access to **sustainable financing, tax benefits, sustainable markets, and positive publicity**

Now is the time to act – for both governments and companies

5 Key recommendations and actions



Now is the time for **governments** to ...

- ... establish innovative funds
- ... introduce regulation to support key high-risk sectors in their energy transformation and to keep production within the country
- ... act as one bloc within the EU



Now is the time for **companies** to ...

- ... move swiftly to determine the severity of the impact on their industry, company and value chain, and then ascertain the relative urgency of a response
- ... evaluate the need to reformulate their energy strategy, and consider the various options open to them

Our experienced team can help you to determine the urgency of your company's situation, and to put together the right mix of options to deal with the impact of the energy crisis

Strategy& has built a static model that uses six key assumptions to assess the impact of rising energy prices on various sectors in Europe

Key assumptions in static model

	Assumption	Impact
I Gas price	<ul style="list-style-type: none"> Sectors are assumed to be fully exposed to energy prices that are rising at the same rate as global/EU energy markets 2022 gas price is estimated by increasing the baseline gas price (avg. '16-'18) in line with the rise in the Dutch TTF <i>In reality</i>, (gas) contracts may be still in place, companies may be hedged, and/or governments may have taken (temporary) measures to lower the gas price, e.g. by reducing levies 	↑
II Energy mix	<ul style="list-style-type: none"> Energy mix on the sector level is assumed to remain constant and the same as in the baseline years (avg. '16 – '18) <i>In reality</i>, sectors are exploring new energy sources so that they become less exposed to high gas prices. Also, in the period from 2016 to 2022, the national energy mix has changed, e.g. renewables have become a larger proportion of the total energy mix 	↑
III Behaviour	<ul style="list-style-type: none"> No changes in behavior (e.g. scaling down production and/or alternative sourcing of intermediate products) are included <i>In reality</i>, sectors are seeking continuously seeking solutions to reduce their (energy) cost 	↑
IV Pass through	<ul style="list-style-type: none"> Extent of pass-through of higher production cost to the customer is assumed to depend on share of markets (no pass-through for global markets; 100% for local markets). Proportions of these markets are assumed to remain constant <i>In reality</i>, the share of global markets is increasing as sectors are increasingly importing products from outside Europe 	↓
V Sales	<ul style="list-style-type: none"> Price elasticity is used to estimate the impact of higher prices on sales volume. Elasticity is derived from historic figures and extrapolated when necessary <i>In reality</i>, price elasticity of EU producers may be higher since imports have become more competitive 	↓
VI Labour cost	<ul style="list-style-type: none"> No increase in wages is assumed. Moreover, the size of the workforce and associated costs are assumed to remain constant <i>In reality</i>, wages have increased in recent years, especially in 2022 in order to compensate employees for cost of living 	↓

Contact us if we can support you with our view and experience



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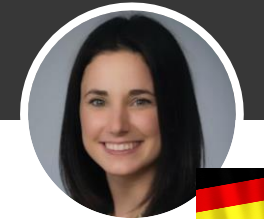
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