POLICY BRIEFING 12|2021

GET German Economic Team
MOLDOVA

Impact of a gas price shock on companies in Moldova

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Summary

- Moldova has declared a state of emergency after expiry of supply contract was followed by gas shortages and price hikes
- We analyze the effects of a natural gas price shock on Moldova's industry
- Industry only consumes a small share of natural gas imports – residential sector is the largest consumer
- Moldova's largest industries are not very energy-intensive
- Gas price shock will only have a significant effect on industries that constitute a small part of total output
  - Costs for the small metallurgical and non-metallic minerals sectors would increase by up to 14% in a worst-case scenario

➢ **Gas price shock should be manageable for most Moldovan industries**

Outline

1. Introduction
2. Main consumers of natural gas in Moldova
3. Identifying energy-intensive sectors
4. Impact of gas price shock on energy-intensive industries
5. Conclusions

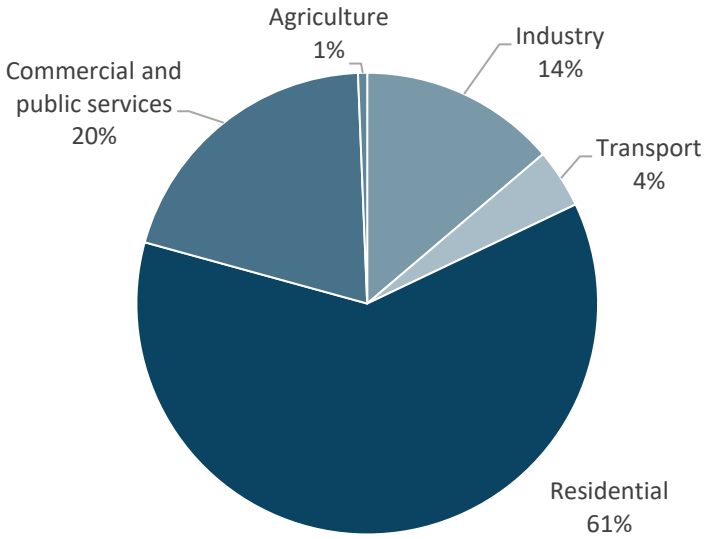
1. Introduction

- Moldova has declared a state of emergency due to uncertainty over future Russian natural gas supplies
- Following a global gas price surge, Gazprom has already increased prices for October ‘21 after contract expired
- Negotiations about future contracts are ongoing
- Moldova is thus facing a temporary natural gas price shock with potentially significant effects on its industry
- In this Policy Briefing, we:
  - Identify energy-intensive sectors
  - Estimate the cost increase of different shock scenarios for selected sectors
  - Discuss whether government should support companies
- Not modelled in this Policy Briefing:
  - Effects on household consumers
  - Effects of gas price shock on electricity and heat prices

2. Main consumers of natural gas in Moldova

- Residential sector and commercial & public services are the largest direct gas consumers
- Industry consumes only 14% of natural gas
  - Non-metallic minerals industry (mainly glass, cement and concrete; 8% of final consumption) and food and drink industry (5%) are the largest industry consumers

Final natural gas consumption 2019

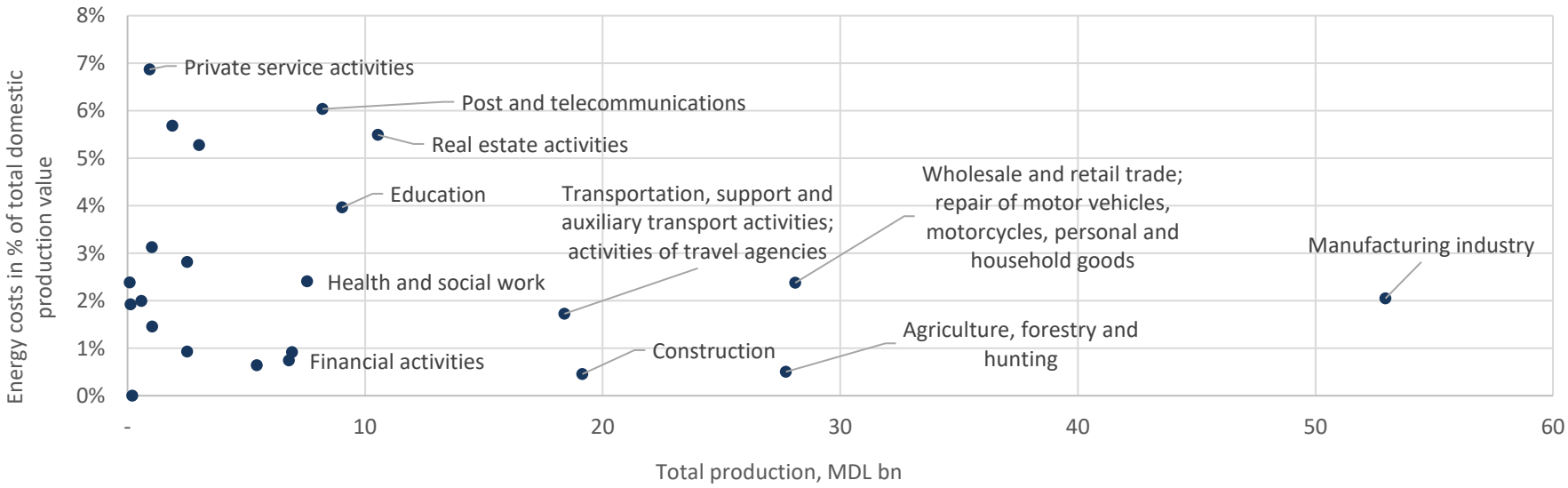


Total final natural gas consumption 2019: 476 ktoe

Source: National Bureau of Statistics Moldova

3. Identifying energy-intensive sectors

Sectoral production and share of energy costs in total production, 2014*



Source: Ministry of Economy and Infrastructure
*Most recent input-output table available

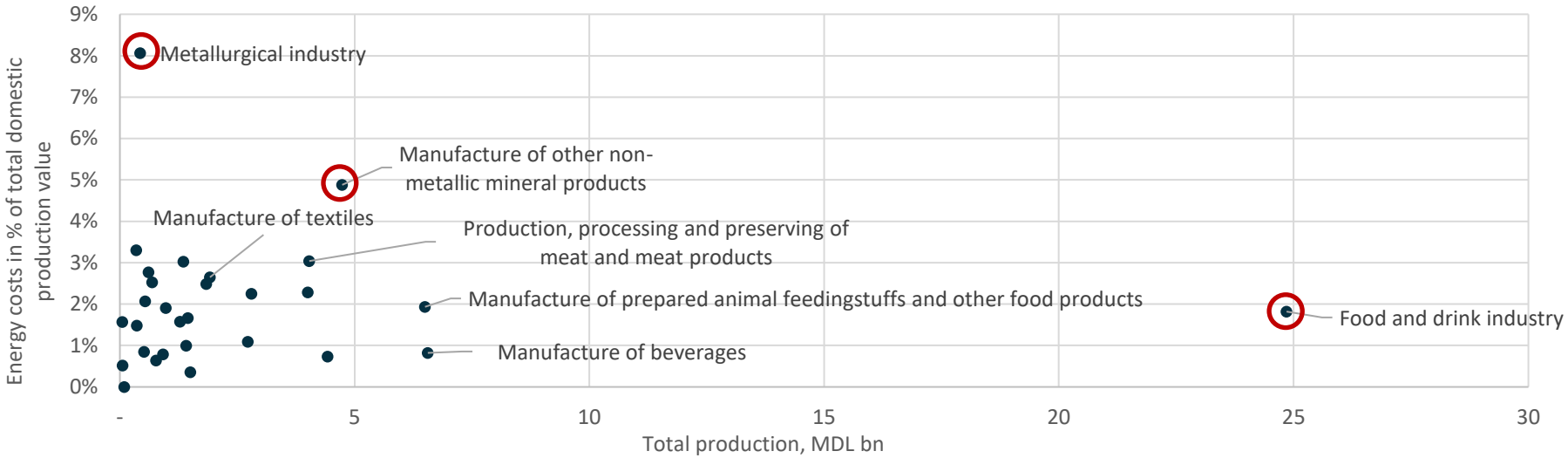
- We used input-output table to identify energy-intensive sectors
  - Energy input comprises „electricity, gas and water supply“

➢ **The largest sectors are not very energy-intensive**

➢ **But: a detailed breakdown of manufacturing shows that some sub-sectors are exposed**

3. Identifying energy-intensive sectors

Manufacturing production and share of energy costs in total production, 2014



Source: Ministry of Economy and Infrastructure

- Metallurgy is most energy-intensive but very small; output 2020: MDL 148 m
- Manufacture of non-metallic mineral products is the most energy-intensive manufacturing sector with significant importance
  - 2020: MDL 4 bn production of glass, cement and concrete (8% of total manufacturing sector)
- Food and drink industry is large but less energy-intensive

4. Impact of gas price shock on energy-intensive industries

- We analyze the price shock effects on two energy-intensive sectors (manufacture of non-metallic mineral products & metallurgy) and the largest manufacturing sector (food and drink industry)
- Three price scenarios centered around the expected weighted average Oct ‘21 - Sep ‘22 spot gas price are modelled
  - Price forecast built using monthly Dutch TTF futures
  - Consumption weighting according to 2019/2020 Moldovan monthly gas consumption
  - Monthly future price is multiplied by assumed monthly consumption weight

Shock scenarios

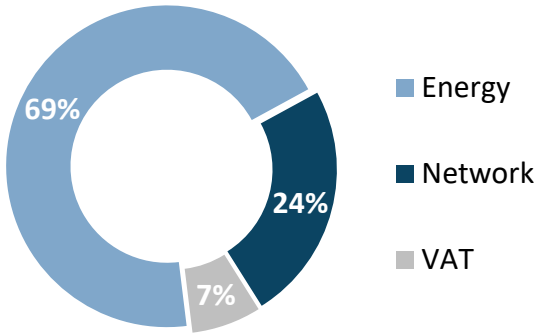
Scenarios	Gas price, USD/tcm
Weighted avg Oct ‘20 - Sep ‘21 price	*170*
Scenario 1	700
Scenario 2	900
Scenario 3	1100

4. Impact of gas price shock on energy-intensive industries

We model the following pass-through of a gas price shock:

- Wholesale gas prices increase 4- to 6-fold depending on scenario
- The energy component of retail prices (currently at 69%) increases
- Companies' (retail) gas component in total energy inputs increases
  - Gas component in aggregate "electricity, gas, and water" input (from I-O table) approximated using gas share in gas and electricity consumption from 2019 energy balance
  - Approximated gas component is high for non-metallic minerals (73%) and lower for metallurgy (51%) and food industry (43%)

Final gas tariff breakdown in 2020, %



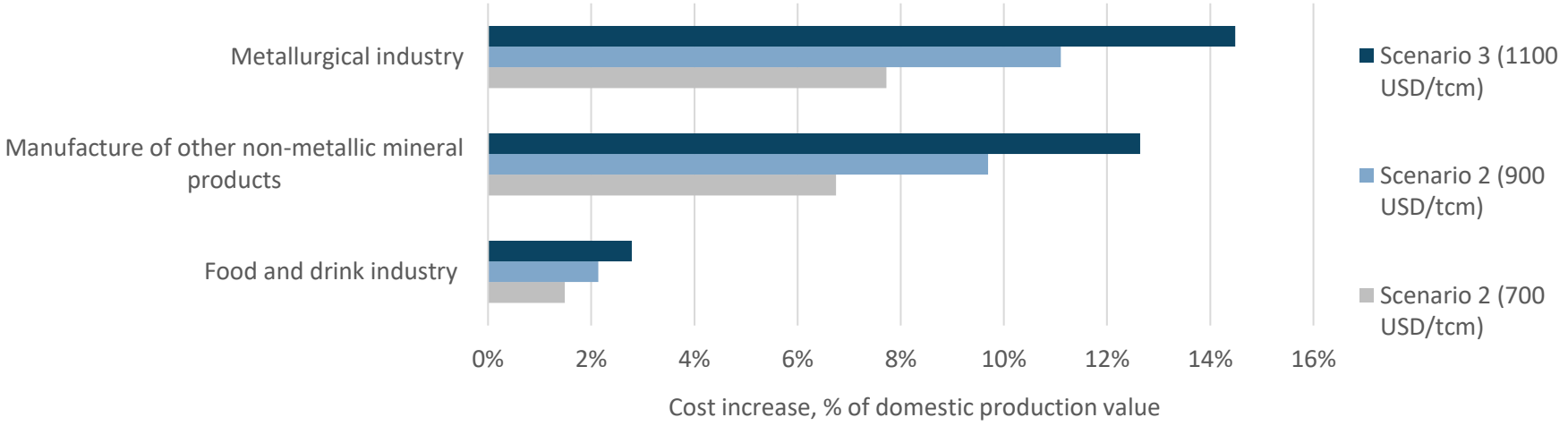
Source: Energy Community report

4. Impact of gas price shock on energy-intensive industries

Scenario shock results

- Non-metallic minerals and metallurgy costs increase by 13-14% in worst-case price scenario
  - However, combined production amounts to only MDL 5 bn in 2020 (9% of total)
- Large food and drink industry (2020: MDL 50 bn production, 83% of total) faces a smaller and likely manageable cost increase of max. 3%

Cost increase for different price scenarios



Source: Ministry of Economy and Infrastructure, own calculations

5. Policy options and conclusion

- Gas price shock has a small cost effect on most sectors as energy-intensive industry is small
- Exposed companies should be able to absorb temporary gas price shock because:
  - Higher costs can be passed on to consumers
  - Price shock is global and thus also affects international competitors
- Government should therefore prioritize support to largest gas consumer group of households
- Mid-term option to reduce natural gas dependency: diversify energy supply by increasing renewable electricity generation and interconnectivity with neighboring countries

About the German Economic Team

Financed by the Federal Ministry for Economic Affairs and Energy, the German Economic Team (GET) advises the governments of Ukraine, Belarus, Moldova, Kosovo, Armenia, Georgia and Uzbekistan on economic policy matters. Berlin Economics has been commissioned with the implementation of the consultancy.

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