Perspective on the Future of Trade

BCG Global Advantage and Energy Practice Area
Prepared: 3 Nov 2022
Introduction to this document

The war continues to be first and foremost a humanitarian crisis, and the top priority for all continues to be the safety and security of people.

Moreover, the continuity of the war has resulted in profound economic impact, not only within Ukraine but globally — as supply chains face disruption, commodity prices rise, and unprecedented levels of sanctions take hold.

We continue to examine the most pressing issues and questions on the minds of our clients and teams.

This edition shares the latest update on the global economic impact of the war, as well as the future of global trade based on the conflict and other factors. The document outlines our perspective on the future of trade, key sector impacts (particularly to energy), and implications for business leaders.
AGENDA

War in Ukraine: Global Update & Perspective on the Future of Trade

Perspective on Future of Trade

› Context and current situation
› Focus on energy
› Implications for leaders
› Appendix
# Summary | Future of Trade affected by Ukraine crisis, other geopolitical forces

**Future of Trade (FoT) perspective grounded in global geopolitical scenarios for 2030**

Three major drivers underlie shifting trade flows:

1. **Russia-West fall-out**: EU-Russia trade sees massive decline as Western allies place sanctions on Russia; trade moves from Russia-EU to Russia-East (China, India), with most disruptive impacts in Energy

2. **China trade dynamics**: Slower US / EU trade with China, as increased focus on trade resilience in face of geopolitical risk drives trade growth with ASEAN, India, Mexico, and increasing "near-shoring" and "friend-shoring"

3. **ASEAN trade growth**: Region to benefit from strong growth with China, US, and EU; push (e.g., geopolitical tensions, higher cost structure in China) and pull (e.g., trade connectivity) factors drive growth

## Impacts on energy

Energy trade changes **drive near-term price increases**; high prices to persist into 2023-24, particularly in EU. Reduced economic growth requires measures (e.g., subsidies) to **manage immediate energy shocks**

**Longer-term policies** to sustainably support EU phase-out of Russian energy could have **significant trade implications** (e.g., reoriented energy supply chains, accelerated shift to renewable energy build)

## Implications

**In short-term**, businesses need to understand trade flow risks across value chain, prioritize no-regrets moves, and intensify contingency planning

**In long-term**, businesses must build capabilities to manage volatility and apply scenario planning for resilience
AGENDA

War in Ukraine: Global Update & Perspective on the Future of Trade

PREPARED: 03 Nov 2022

Perspective on Future of Trade

› Context and current situation

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› Appendix
**FoT 2031 outlook | Geopolitical tensions contribute to reshaping of trade flows**

**Change in trade of goods, major corridors**

2031 vs. 2021, constant 2021 Billion USD

<table>
<thead>
<tr>
<th>Country</th>
<th>2021 Billion USD</th>
<th>2031 Billion USD</th>
<th>Change 2021-2031</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan/Korea</td>
<td>32</td>
<td>272</td>
<td>+2.3%</td>
</tr>
<tr>
<td>Russia</td>
<td>172</td>
<td>262</td>
<td>&gt;2.3%</td>
</tr>
<tr>
<td>Germany</td>
<td>90</td>
<td>73</td>
<td>&gt;2.3%</td>
</tr>
<tr>
<td>China</td>
<td>59</td>
<td>438</td>
<td>&gt;2.3%</td>
</tr>
<tr>
<td>Mexico</td>
<td>93</td>
<td>42</td>
<td>&lt;0%</td>
</tr>
<tr>
<td>US</td>
<td>338</td>
<td>236</td>
<td>0-2.3%</td>
</tr>
<tr>
<td>UK</td>
<td>55</td>
<td>80</td>
<td>0-2.3%</td>
</tr>
<tr>
<td>EU</td>
<td>83</td>
<td>39</td>
<td>0-2.3%</td>
</tr>
<tr>
<td>Russia</td>
<td>172</td>
<td>90</td>
<td>&gt;2.3%</td>
</tr>
<tr>
<td>GCC</td>
<td>55</td>
<td>217</td>
<td>&gt;2.3%</td>
</tr>
<tr>
<td>Australia</td>
<td>6</td>
<td>17</td>
<td>&lt;0%</td>
</tr>
<tr>
<td>India</td>
<td>137</td>
<td>73</td>
<td>&lt;0%</td>
</tr>
<tr>
<td>Mercosur</td>
<td>217</td>
<td>35</td>
<td>&lt;0%</td>
</tr>
<tr>
<td>Africa</td>
<td>42</td>
<td>36</td>
<td>&lt;0%</td>
</tr>
</tbody>
</table>
| Total global goods trade value

- **Total global goods trade value**: Trillion USD

2021: 21.1  
2031: 26.6  

+2.3%

1. Corridors in the map above represent ~46% of global trade.

Note: EU Intra-trade estimated to grow by 1.5T USD by 2031 CAGR 1.8%; inflation adjusted; BCG does not provide legal or regulatory advice.

Source: UN Comtrade, Oxford Economics, IHS, WTO, BCG Global Trade Model 2022, BCG analysis
Three significant corridor shifts; one new, other two are trend accelerations

Change in trade of goods, major corridors¹
2031 vs. 2021, constant 2021 Billion USD

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Change 2031 vs 2021 Billion USD</th>
<th>CAGR 2021-2031, %</th>
<th>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>217</td>
<td>&lt;0%</td>
<td>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</td>
</tr>
<tr>
<td>Mexico</td>
<td>93</td>
<td>~0.2%</td>
<td>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</td>
</tr>
<tr>
<td>China</td>
<td>338</td>
<td>2.3%</td>
<td>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</td>
</tr>
<tr>
<td>Russia-West</td>
<td>-262</td>
<td>&gt;2.3%</td>
<td>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</td>
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<tr>
<td>Japan/Korea</td>
<td>438</td>
<td></td>
<td>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</td>
</tr>
<tr>
<td>ASEAN</td>
<td>272</td>
<td></td>
<td>Width of arrow represents total change in trade flows 2031 vs 2021, Billion USD</td>
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</table>

1. Corridors in the map above represent ~46% of global trade.
Note: EU intra-trade estimated to grow by 1.5T USD by 2031 CAGR 1.8%; inflation adjusted; BCG does not provide legal or regulatory advice.
Source: UN Comtrade, Oxford Economics, IHS, WTO, BCG Global Trade Model 2022, BCG analysis
Prepared: 03 Nov 2022

Ukraine crisis directly led to Russia-West fall-out & accelerated other trends

### Immediate impact (new)

**1. Russia-West fall-out**

Significant Russia & West (primarily EU) trade decline

Russian exports to shift from West to East (e.g., China, India)

<table>
<thead>
<tr>
<th>2-way trade flow shifts</th>
<th>2031 trade value Δ vs. 2021 trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>RU ↔ EU</td>
<td>$-311B\textsuperscript{1}</td>
</tr>
<tr>
<td>RU ↔ JPN</td>
<td>$+110B</td>
</tr>
<tr>
<td>RU ↔ IN</td>
<td>$+338B</td>
</tr>
</tbody>
</table>

### Accelerated trend

**2. China trade dynamics**

Uncertainty of geopolitical outcomes drive friend-shoring of supply chains

Relative decline US/EU-China trade, nuanced impact on sectors driven by policy action choices

<table>
<thead>
<tr>
<th>2031 trade value Δ vs. 2021 trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>US ↔ EU</td>
</tr>
<tr>
<td>US ↔ JPN</td>
</tr>
</tbody>
</table>

### ASEAN trade growth

ASEAN trade increases; region gains from geopolitical tensions, low-cost structure & good trade connectivity

ASEAN exports continue to increase

<table>
<thead>
<tr>
<th>2031 trade value Δ vs. 2021 trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN ↔ EU</td>
</tr>
</tbody>
</table>

1. Russia-Japan trade flows not included. 2. Figure includes ASEAN-US trade (+$236B) that is also counted under China Trade Dynamics

Note: Above figures quoted in constant 2021 USD; country trade flows utilized in above calculations include RU-EU ($-262B), RU-UK ($-26B), RU-US ($-23B), RU-CN ($90B), RU-IN ($20B), US-EU (+$338B), US-CN ($63B), US-ASEAN (+$236B), US-IN ($93B), ASEAN-CN ($438B), ASEAN-JP & KR (+$272B), ASEAN-EU (+$172B)
Russia→West | Most disruptive impacts in energy given sector’s export share

Key sectors

Energy
- Decreased trade flows given Russian energy sanctions and EU’s drive to energy independence
- Reallocation to other energy sources and producing nations

Metals & mining
- Early shocks from material shortage, mostly short-term as firms finding alternative supply
- Diversification of key suppliers, though limited for some rare materials (e.g., palladium)

Future of trade

Example

EU expediting energy imports (e.g., LNG, low-carbon ammonia) from Western Allies, Middle East

Development of new smelters and mines (e.g., nickel in Indonesia, Philippines)

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1. Breakdown is as follows: Energy (28%), Metals & Mining (26%), Chemicals (8%), Agribusiness (2%), Other (35%)
Note: 2017 chosen as base year as year when trade tensions began (e.g., Trump came into office, Brexit negotiations began)
Source: UN FAO Information Note, SP Global, UN Comtrade, BCG Global Trade Model, BCG analysis
Russia → West | EU aiming to end dependency on Russian energy by 2030

Two main EU plans to reduce import dependence...

6th Sanctions Package focuses on oil, petroleum

Target reduction in Russian oil imports by end of 2022: 92%

Further sanctions enacted by the EU in June '22 focus on oil and petroleum

The EU’s aim is to minimize seaborne crude oil imports and cut other refined petroleum products over the next 6-8 months

RePowerEU aims to reduce import of Russian gas

Target reduction in Russian natural gas supply by end of 2022: 66%

Requires strong coordination to realize, given risks (e.g., intense competition for LNG from Asia, pace of Net-Zero transition)

Long-term (~2030) reduction target of gas consumption requires front-loading of already aggressive plans

95%

...plan to reduce gas dependence requires fossil fuel diversification & renewables

Target levers for reduction of Russian gas dependence

Billion cubic meters equivalent, for year 2022

66% Fossil fuel diversification

50

150

66% Energy efficiency & Renewables

10

4

14

2

3

20

47

Source: Aurora Energy Research; IEA; Oxford Institute for Energy Studies; ENTSOG Transparency Platform; Eurostat; Gas Infrastructure Europe; Rystad; Dentons; Broker reports; BCG analysis

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Russia → Others | China & India set to benefit most from trade fallout

Key sectors

Future of trade

Example

Russia-China & India

Russian exports to China & India, by sector (constant 2021 billion USD)

<table>
<thead>
<tr>
<th>2017</th>
<th>2021</th>
<th>2031F</th>
</tr>
</thead>
<tbody>
<tr>
<td>$65B</td>
<td>$78B</td>
<td>$116B</td>
</tr>
</tbody>
</table>

Key sectors

Energy

Future of trade

• **Given sanctions**, potential for China & India to continue buying discounted Russian energy

• **China & India well-positioned** to capture decline in Russian sales to West; however, value offset by lower forecasted prices

Example

Russia & China discussing potential major gas pipeline project, the Power of Siberia 2

Russia-RoW

Russian exports to RoW, by sector (constant 2021 billion USD)

<table>
<thead>
<tr>
<th>2017</th>
<th>2021</th>
<th>2031F</th>
</tr>
</thead>
<tbody>
<tr>
<td>$188B</td>
<td>$180B</td>
<td>$221B</td>
</tr>
</tbody>
</table>

Key sectors

Agribusiness

Future of trade

• **Emerging countries susceptible to food pricing shocks**, especially where Russia has outsized market share (e.g., Wheat)

• **Uncertain current & long-term impacts** for grain & fertilizer exports; need for countries with high dependence on RU to seek alternate suppliers

Example

India, Canada & Australia emerging as alternatives to Russian wheat (IN) & rapeseeds (CA, AUS)

Note: 2017 chosen as base year as year when trade tensions began (e.g., Trump came into office, Brexit negotiations began); RoW = Rest of World excluding Western Allies, China, and India

Source: UN Comtrade, BCG Global Trade Model, BCG analysis
Russia→Others | Post-conflict trend in trade from West to East to continue

Russia’s monthly total trade by partners

Relative to 2021 monthly average
(‘21 – ‘22 Jun, 10 = 2021 monthly average)

Absolute basis
(‘21 – ‘22 Jun, USD B)

Significant growth in Indian purchases of Russian commodities

Shifts from West to East

Monthly average Russia trade value by trade groups (‘21 vs ‘22 post-conflict to Aug ’22, USD B)

Note: Trade data based on China, EU, India, UK and US’s reported trade with Russia from Jan 2021 to June 2022; The inflation is not captured in the analysis
Source: IHS Markit; BCG analysis

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Significant growth in Indian purchases of Russian commodities

Russia→West fall-out

Russia’s monthly total trade by partners

Note: Trade data based on China, EU, India, UK and US’s reported trade with Russia from Jan 2021 to June 2022; The inflation is not captured in the analysis
Source: IHS Markit; BCG analysis

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China → US | China still core partner, nuanced sectoral impact from tensions

Sectors exposed to US policy action more vulnerable than others

US imports from China, by sector (constant 2021 billion USD)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2017</th>
<th>2021</th>
<th>2031F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Electronics</td>
<td>$555B</td>
<td>$505B</td>
<td>$384B</td>
</tr>
<tr>
<td>Apparel</td>
<td>$19B</td>
<td>$14B</td>
<td>$15B</td>
</tr>
<tr>
<td>Automotive</td>
<td>$32B</td>
<td>$9B</td>
<td>$38%</td>
</tr>
<tr>
<td>Machinery²</td>
<td>$42B</td>
<td>$8%</td>
<td>$8%</td>
</tr>
<tr>
<td>Durables</td>
<td>$23%</td>
<td>$15%</td>
<td>$15%</td>
</tr>
<tr>
<td>Others</td>
<td>$13%</td>
<td>$7%</td>
<td>$9%</td>
</tr>
</tbody>
</table>

1. Includes electrical and mechanical machinery

Note: 2017 chosen as base year as year when trade tensions began (e.g., Trump came into office, Brexit negotiations began)
Source: SCMP, Area Development, Foreign Policy, UN Comtrade, BCG Global Trade Model, BCG analysis

Key sectors

- **Consumer electronics**
  - Complex trade impact as firms diversify from China while retaining China capacity
  - So far, most consumer electronics have not attracted tariff policy action in US-China

- **Apparel**
  - Trade continues to decrease driven by rising Chinese costs and trade concerns
  - Chinese industrial policy seeking to exit low value-add manufacturing

- **Automotive & Machinery²**
  - Trade reduction in sectors subject to policy actions (e.g., Trump-imposed Sect. 301 tariffs)
  - US policy drives near-/friend-shoring (e.g., US IRA, USMCA tariff preferences)

Future of trade

Example

- Chinese laptop OEM maintains #3 share in US market
- Major sport fashion apparel co. moving from China to ASEAN
- Major EV manufacturer locating battery production in Great Lakes Region

**Example**

- **Chinese laptop OEM** maintains #3 share in US market
- **Major sport fashion apparel co.** moving from China to ASEAN
- **Major EV manufacturer** locating battery production in Great Lakes Region

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1. Includes electrical and mechanical machinery

Note: 2017 chosen as base year as year when trade tensions began (e.g., Trump came into office, Brexit negotiations began)
Source: SCMP, Area Development, Foreign Policy, UN Comtrade, BCG Global Trade Model, BCG analysis
US → China | US exports to China forecast to grow

Exports to China continue to grow, assuming no further policy action

US exports to China, by sector (constant 2021 billion USD)

<table>
<thead>
<tr>
<th>Year</th>
<th>Agribusiness</th>
<th>Machinery</th>
<th>Semiconductors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$143B</td>
<td>$151B</td>
<td>$232B</td>
</tr>
<tr>
<td>2021</td>
<td>$162B</td>
<td>$154B</td>
<td>$233B</td>
</tr>
<tr>
<td>2031F</td>
<td>$182B</td>
<td>$217B</td>
<td>$255B</td>
</tr>
</tbody>
</table>

Key sectors

Future of trade

- **Uncertain trade impact** given growing Chinese consumption, but subject to policy actions
- Under Jan 2020 "Phase 1" deal, China agreed to buy US agricultural goods\(^2\), leading to 112% inc. vs. 2019; deal expired Dec 31, 2021

Example

High Chinese demand for soybean imports persist, despite Chinese domestic production

- **Uneven trade impact** by machinery type
- **US aircraft deliveries to China collapsed** in midst of COVID; uncertainty on rebound
- US remains leader in machinery; despite innovation efforts, China will continue to rely on US

1. Includes electrical and mechanical machinery. 2. However, China only purchased ~58% of agreed-upon US exports (~83% of agricultural goods) in the deal.


Prepared: 03 Nov 2022
Favorable conditions driving significant growth in ASEAN trade

**Push factors** are driving some trade growth away from existing partners…

- **Geopolitics Shifting Trade**
  Greater concern over geopolitical risk disrupting existing trade routes

- **China relatively more expensive**
  ASEAN labor now priced 10-15% lower than Chinese labor

...while **pull factors** make the ASEAN region attractive to international trade connections

- **Large Fast-growing Economy**
  ASEAN will be 4th largest economy by 2030; high economic growth to continue

- **Sectoral Diversity**
  Strong manufacturing, tech, consumer, mining, agriculture & construction sectors

- **Good Trade Connectivity**
  Strong market access from membership in both RCEP & CP-TPP trade blocs
ASEAN → World | ASEAN becoming an attractive trading partner globally

**Key sectors**

**Semiconductors**
- Growing production due to competitive costs, geopolitical diversification (e.g., relative to China)
- Diversification of sourcing benefits ASEAN producers incl. Thailand and Malaysia

**Metals & Mining**
- Growing production with high FDI (e.g., Malaysia, Indonesia, Philippines), value offset by forecasted decline in commodity prices
- Given critical mineral reserves, ASEAN well-positioned to grow & potentially attract downstream value chains

**Other sectors**
- Growing, well-diversified economy (e.g., consumer, manufacturing, agriculture)
- ASEAN trade to grow in virtually all sectors with every major trading bloc

**Future of trade**

1. ASEAN exports continue to grow, driven by strong push & pull factors

   **ASEAN exports**, by sector (constant 2021 billion USD)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2017</th>
<th>2021</th>
<th>2031F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semiconductors</td>
<td>$1.4T</td>
<td>$1.7T</td>
<td>$3.2T</td>
</tr>
<tr>
<td>Metals &amp; Mining</td>
<td>$0.9T</td>
<td>$1.0T</td>
<td>$1.3T</td>
</tr>
<tr>
<td>Other sectors</td>
<td>$2.8T</td>
<td>$2.7T</td>
<td>$3.5T</td>
</tr>
</tbody>
</table>

2. Intra-ASEAN trade is included in these figures;
   Note: 2017 chosen as base year as year when trade tensions began (e.g., Trump came into office, Brexit negotiations began)

   Source: Nikkei Asia, UN Comtrade, BCG Global Trade Model, BCG analysis

**Example**

- Leading semiconductor manufacturer considers Singapore expansion
- Automotive giants adding Indonesian nickel to battery supply chain
- Leading consumer electronics firm partially migrating flagship goods to Vietnam
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Prepared: 03 Nov 2022
Risks associated with Russian energy phase-out must be carefully managed

In near-term, high energy prices to persist, leading to inflation & lower economic growth

Natural gas TTF, € per MWh

Key drivers of tight energy market:
- Supply: Sanctions on Russian energy, OPEC+ cuts
- Demand: Impending winter demand

Multiple policy levers in response to Russian energy trade fall-out, with varied trade impact

- **Direct user subsidies**: Support for high consumer energy bills, could potentially drive higher energy demand and trade
- **Energy reduction measures**: Restrict consumption of energy, potentially reduce demand and energy trade
- **Shift in energy mix**: Increased use of fossil fuels and nuclear power given affordability & accessibility
- **Reoriented energy supply chains**: Investments in alternative infrastructure, shift to allied energy suppliers
- **Accelerated renewable shift**: Investments in renewable supply chains and producers to accelerate green transition

Prices remain elevated in next ~12-24 months, much higher than pre-conflict

Source: Eikon; BCG analysis
Tight markets continue to drive high EU energy costs, economic ripple effects

High energy prices expected to continue...

Restricted supply from sanctions on Russian energy and OPEC+ production cuts...

...the impact of impending winter demand...

...and limited alternative supply beyond gas storage to meet EU energy demand

...reducing competitiveness of energy intensive industrial production in Europe...

**Case example:** Germany production costs for industrial goods uncompetitive
Largest industrial producer within EU (~27% as of 2021)

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>Sep. 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>230</td>
<td>410</td>
</tr>
<tr>
<td>Steel</td>
<td>560</td>
<td>670</td>
</tr>
<tr>
<td>Aluminum</td>
<td>1,700</td>
<td>1,900</td>
</tr>
</tbody>
</table>

German cost is ~3x global average...

...and ~1.7x global average

Production costs for energy-intensive industrial goods, €/t

...with long term economic impacts

Industrial slowdown from Europe energy crunch could risk long-term damage to future growth

Some companies are redirecting industrial investment to more energy-secure locales

Consumer wallets constrained; decline in consumer spending could further slow economic growth

Source: IHS; Nexant; ICIS; World Steel Dynamics; Wood Mackenzie; Europa; BCG analysis
Many levers can support phase-out; longer-term ones likely to impact trade

<table>
<thead>
<tr>
<th>Policy Intent</th>
<th>Potential trade impact on EU</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct user subsidies</td>
<td>Minimal: Increase purchases along existing energy trade networks</td>
<td>Policies to cap portion of payments for home heating</td>
</tr>
<tr>
<td>Energy reduction</td>
<td>Minimal: Decrease purchases along existing energy trade networks</td>
<td>Voluntary EU goal of a 15% reduction in energy usage</td>
</tr>
<tr>
<td>Shift in energy mix</td>
<td>Large: Decreased trade with Russia, replaced with existing sources of coal, nuclear, etc.</td>
<td>Germany extending operating life of coal and nuclear plants</td>
</tr>
<tr>
<td>Reoriented energy supply chains</td>
<td>Large: &quot;Friend-shoring&quot; &amp; shift in energy imports from friendly countries, high strain on global LNG supplies</td>
<td>Poland, Bulgaria using LNG imports from neighboring countries</td>
</tr>
<tr>
<td>Accelerated renewable shift</td>
<td>Large: Shift from focus on hydrocarbon imports to renewable energy build (e.g., materials, resources)</td>
<td>REPowerEU efforts to accelerate green transition</td>
</tr>
</tbody>
</table>

At any stage in phase-out, need to ensure sufficient energy flow among countries
Implications for leaders as Future of Trade continues to evolve under geopolitical tensions and dynamics

**Shorter Term**

Understand key value chain risks to better respond
E.g., *What* key commodities impact operations, *where* biz-ops take place, and *who* are key/alternative suppliers

Prioritize no-regrets moves to bolster supply chain resilience
E.g., Build up buffer inventory of at-risk key commodities, pre-qualify alternative suppliers

Begin contingency planning for any at-risk key commodities identified in value chains
E.g., Fund R&D for alternatives of rare minerals, develop supplier relationships across multiple continents

**Longer Term**

Embed scenarios planning into capital allocation and strategic planning processes
E.g., Test against range of scenarios incl. trade, geopolitics and pandemic impact to build contingency plans

Leverage scenario plans to develop a long-term supply chain resilience plan that best fits strategy
E.g., Utilizing more regionally-based or diversified sourcing given geopolitical tensions in key trade corridors

Build control tower capabilities to gain visibility of emerging disruptions or external shocks
E.g., Put in place people and systems with ability to rapidly detect shocks & respond and adjust quickly

Source: BCG case experience & analysis
Teams across BCG are actively monitoring impact

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Global economic impact of the war in Ukraine

Perspective on Future of Trade

➤ Context and current situation
➤ Focus on energy
➤ Implications for leaders

➤ Appendix
## Russian Energy

**EU, UK, US decreasing while China & India picking up**

### Hydrocarbons total trade by estimate volumes and major trade partners

<table>
<thead>
<tr>
<th></th>
<th>EU27</th>
<th>United Kingdom</th>
<th>United States</th>
<th>China</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Gas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2021 Q2 vs 2022 Q2, million mmbtu)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2021 Q2</td>
<td>562</td>
<td>32</td>
<td>0.0</td>
<td>70</td>
<td>0.0</td>
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<tr>
<td>2022 Q2</td>
<td>399</td>
<td>73</td>
<td>0.0</td>
<td>73</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Crude &amp; petroleum prod.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2021 Q2 vs 2022 Q2, million bbl)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021 Q2</td>
<td>304</td>
<td>20</td>
<td>73</td>
<td>134</td>
<td>10</td>
</tr>
<tr>
<td>2022 Q2</td>
<td>242</td>
<td>5</td>
<td>12</td>
<td>150</td>
<td>63</td>
</tr>
<tr>
<td><strong>Coal &amp; other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2021 Q2 vs 2022 Q2, million mt)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021 Q2</td>
<td>24</td>
<td>0.6</td>
<td>0.2</td>
<td>16</td>
<td>2.3</td>
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<tr>
<td>2022 Q2</td>
<td>13</td>
<td>0.4</td>
<td>0.0</td>
<td>10</td>
<td>3.3</td>
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</table>

1. Estimate volumes calculated by quarterly average commodity prices reported from World Bank; Note: Hydrocarbons based on HS chapter 27

**Source:** World Bank, IHS Markit; BCG analysis

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