

German energy policy – a blueprint for the world?

Full survey results



World Energy Council – Germany
Berlin, January 2017



Survey Overview

- Global View – 42 countries
- Europe vs. Rest of the World View – 24 vs. 18 countries
- 2016 participants include World Energy Council's global network of energy experts
- In some cases, 2016 responses are compared to 2015 responses
 - Note: Due to the broadening of participants in our network, 2016 and 2015 results are not directly comparable but are provided for informational purposes.

Executive Summary



► Perception of the Energy Policy and its Goals:

- The majority of respondents believe the German energy policy goals are **feasible, but will be achieved with delay**.
- Most respondents believe the German energy policy would **not serve as a global energy policy blueprint**; however, most respondents believe that **parts of the concept** could be copied.
- **Perception of the energy policy has improved** when compared to 2015 survey results. European countries are less optimistic about whether the energy policy could serve as a global blueprint compared to other countries.
- Approximately one quarter of European respondents stated that the **German energy policy has triggered a national debate on energy** in their country.

► Drivers of Energy Transitions:

- Europe is different than the rest of the world when it comes to **drivers of energy transitions**: for Europe **climate protection and energy security** are the primary drivers, while for the rest of the world **economic growth and increasing the availability of energy** are the primary drivers.

► Climate Change Strategies and Readiness for an Energy Transition:

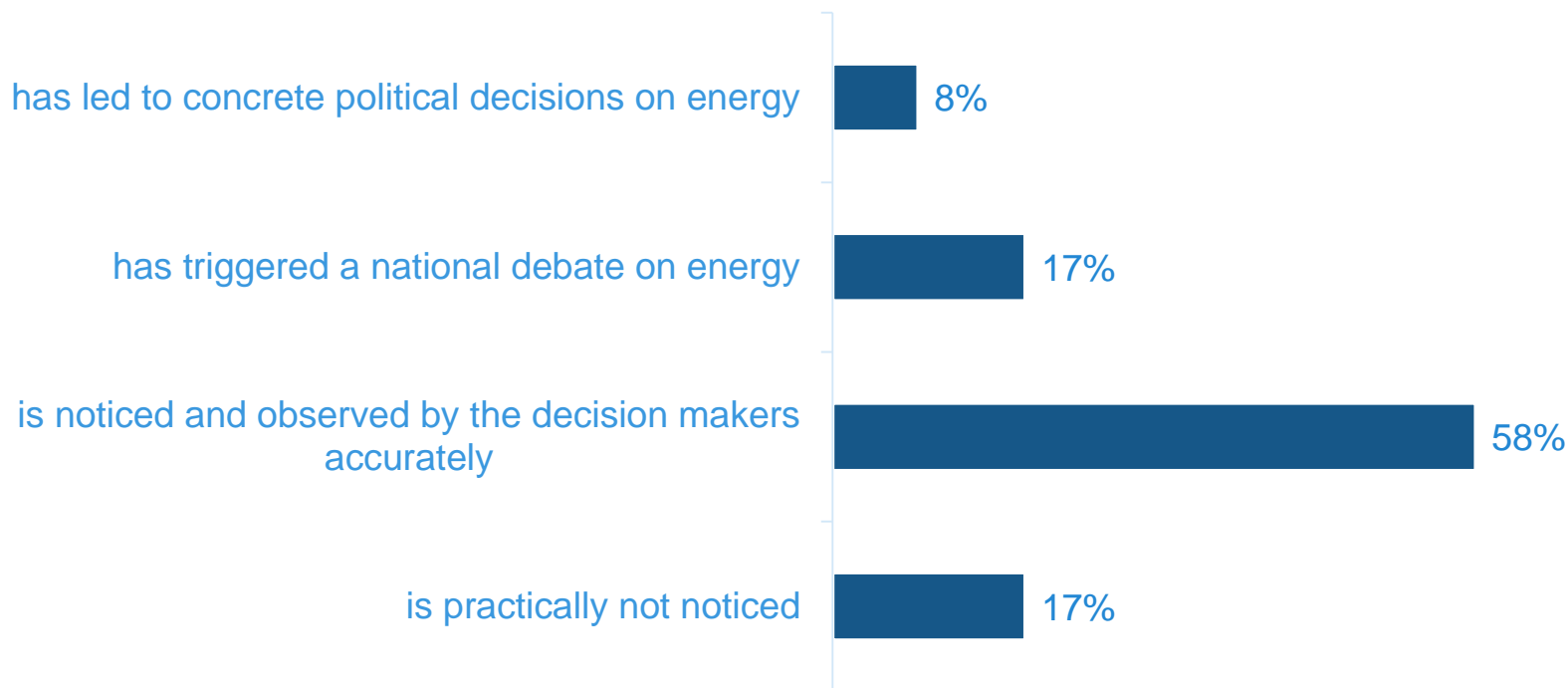
- **Energy efficiency measures** and **carbon pricing** are perceived as top strategies in tackling climate change.
- The majority of respondents believe a **CO2 price would increase the readiness for an energy transition** in their country.
- Respondents are even more optimistic about a **CO2 price that is differentiated between G-20 countries and other countries**, versus a CO2 price that is not.

Agenda

- 1 **Global View – 42 countries**
- 2 Europe vs. Rest of the World View – 24 vs. 18 countries

German energy policy is observed world-wide

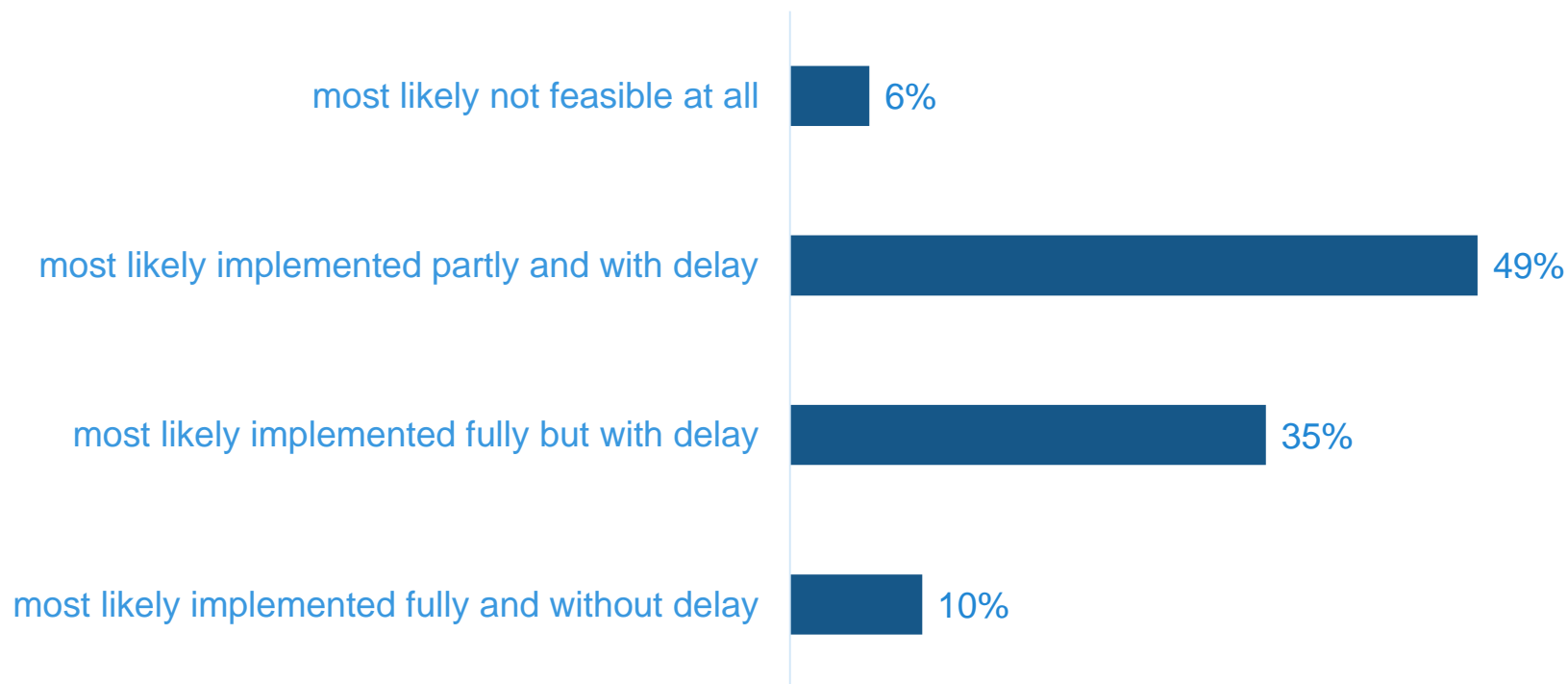
Question 1: How is the current German energy policy perceived in your country?



▶ **The German energy policy is noticed widely abroad. For one quarter of respondents, it has either triggered a national debate on energy or led to concrete political decisions on energy.**

Most respondents believe all or some of the German goals are feasible, but will take time to achieve

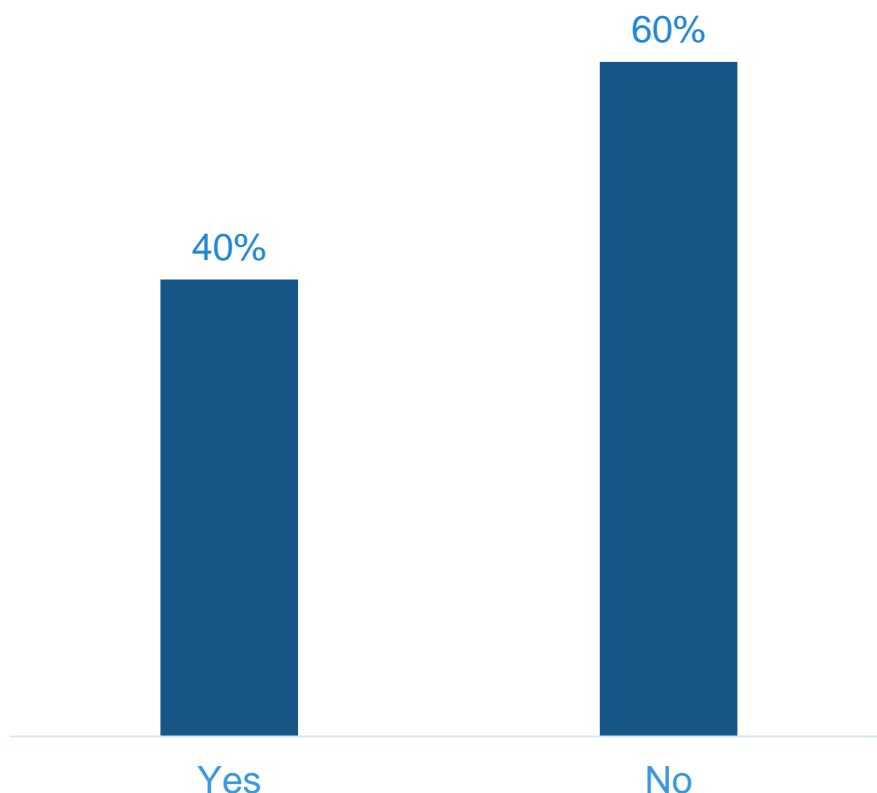
Question 2: How do you assess the feasibility of the German goals?



- **45% of respondents believe all of Germany's goals can be implemented fully, either with or without delay.**
- **84% of respondents believe Germany's goals will either partly or fully be achieved with delay.**

Most believe the German energy policy model is not a blueprint for the world

Question 3: Could the current German energy policy serve as a blueprint for the world?

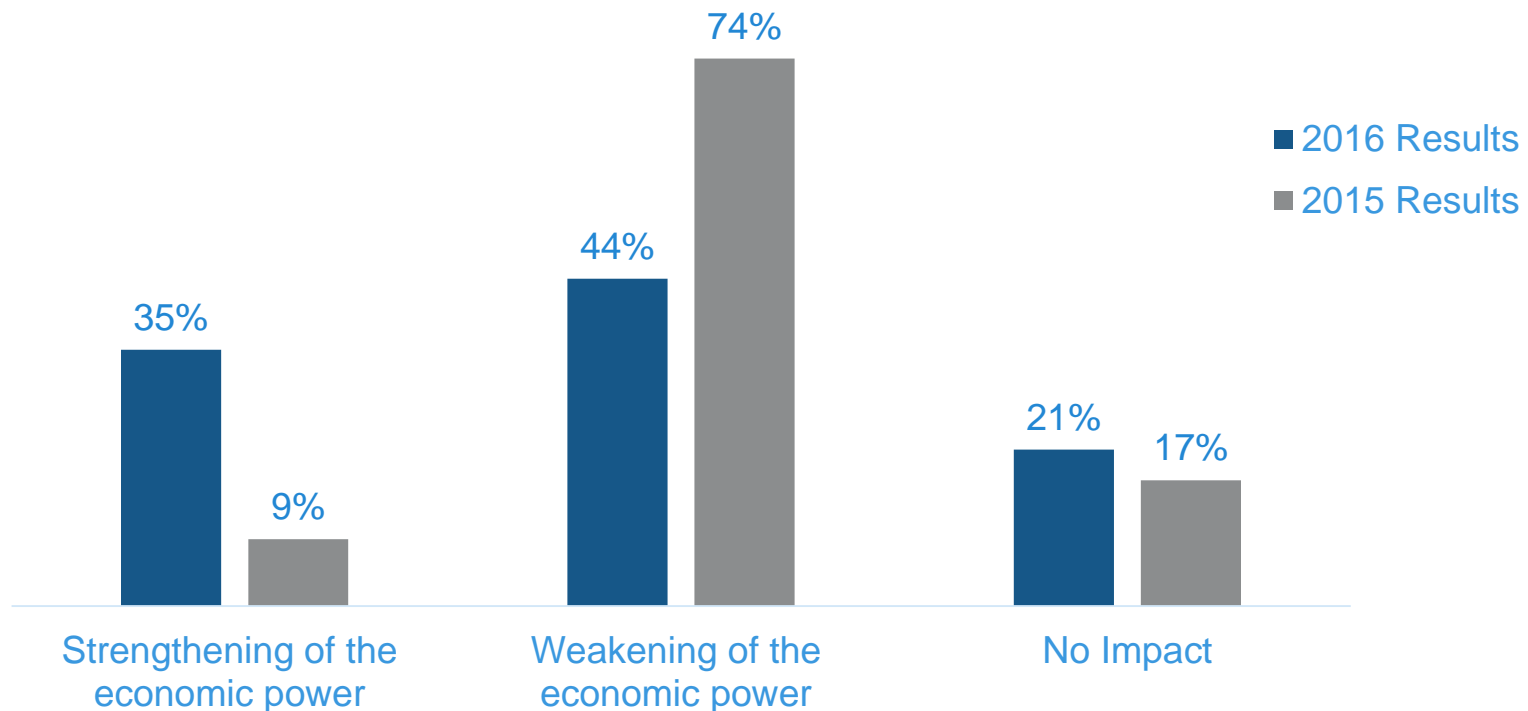


▶ **Why? For those that responded 'No,' reasons included:**

- **High cost of Germany's energy policy**
- **Lack of integration with neighbouring country policies and needs by Germany**
- **Lack of prioritization among goals by Germany**
- **Lack of required technical capacity in other countries**
- **Differences in country energy resources and generation technologies**

In the short-term, the majority expect the energy policy will weaken or have no impact on Germany's economic power

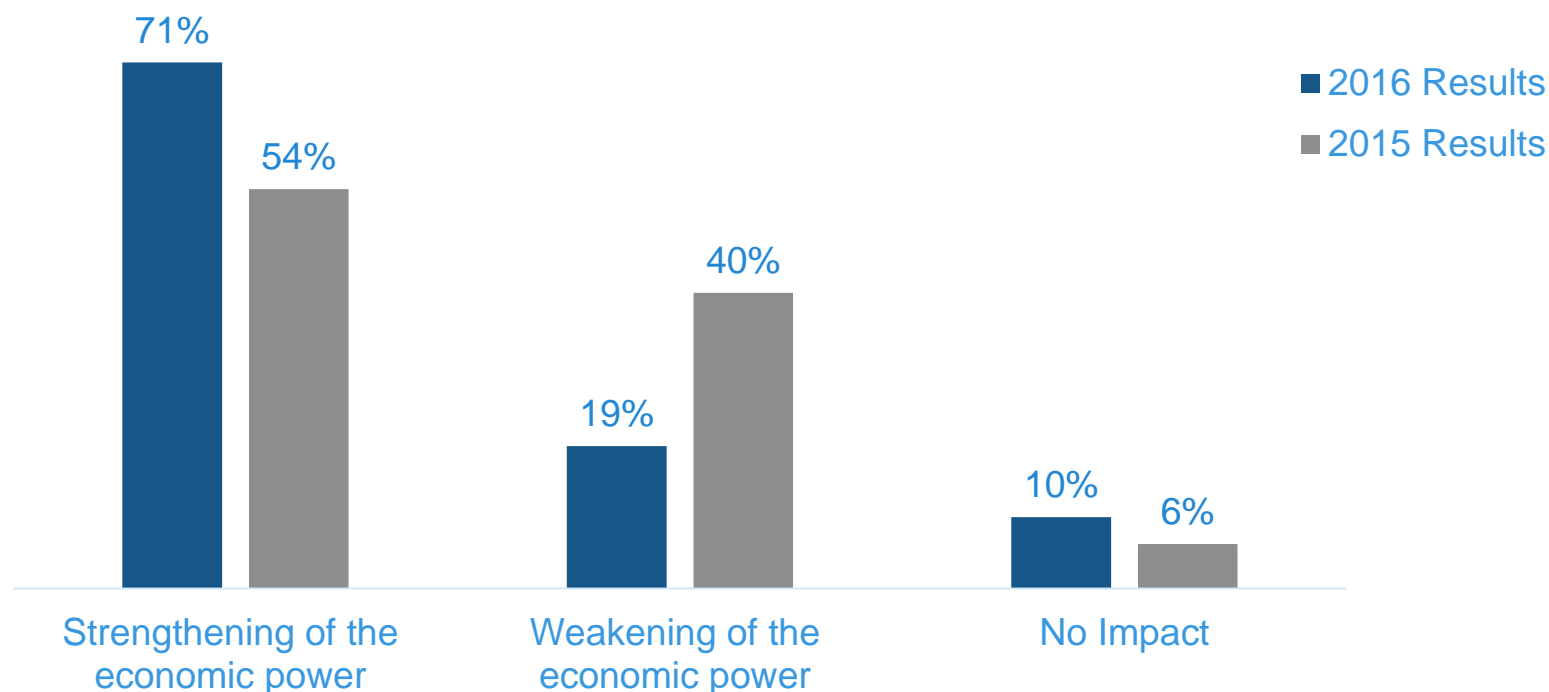
Question 4: What impact do you expect for the economic power of Germany due to the current energy policy? (Short-term)



▶ In the short-term, the majority expect the energy policy will weaken or have no impact on Germany's economic power. However, when compared to last year's results, perception of short-term economic impacts has improved.

In the long-term, most expect a beneficial impact to Germany's economic power as a result of the energy policy

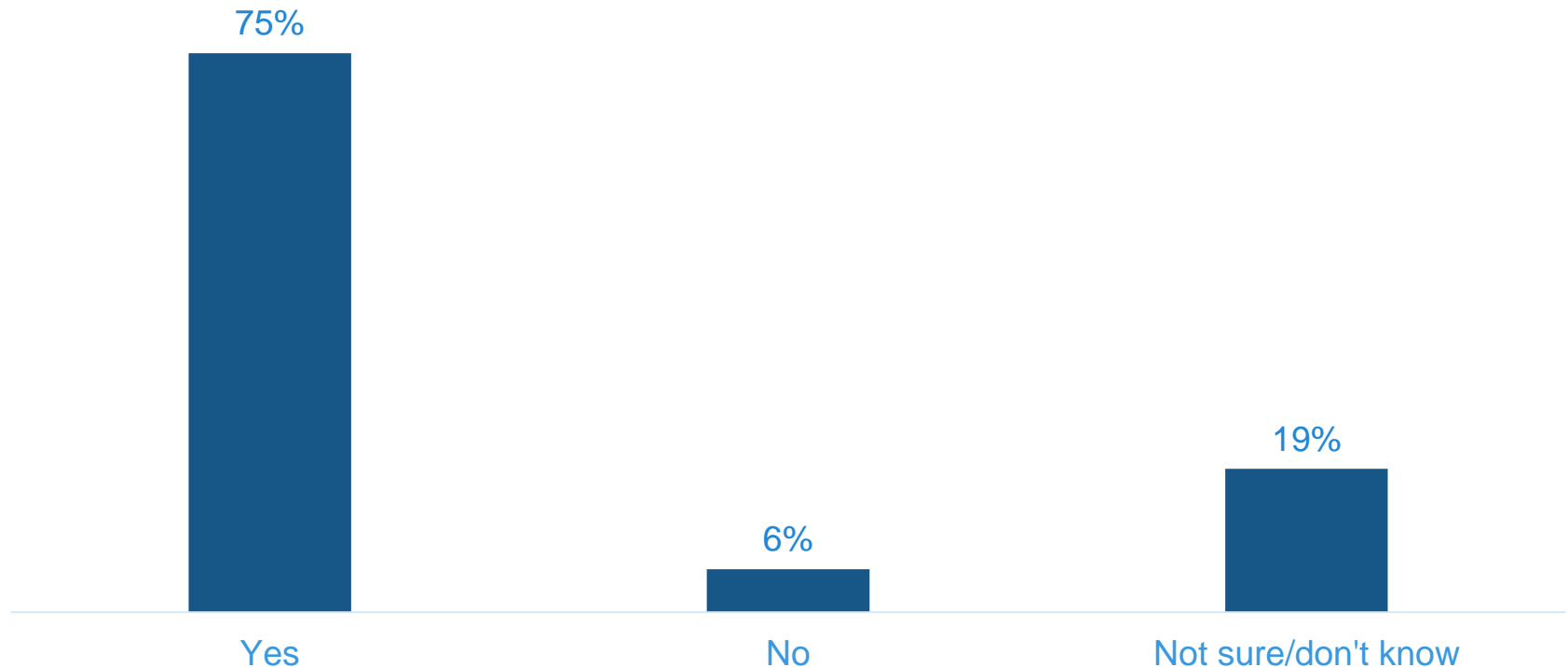
Question 4: What impact do you expect for the economic power of Germany due to the current energy policy? (Long-term)



▶ In the long-term, most expect a beneficial impact to Germany's economic power as a result of the energy policy. Perception of longer-term impacts has also improved when compared to 2015 results.

The change of subsidies from administrative feed-in tariffs to competitive tenders is perceived as the right move

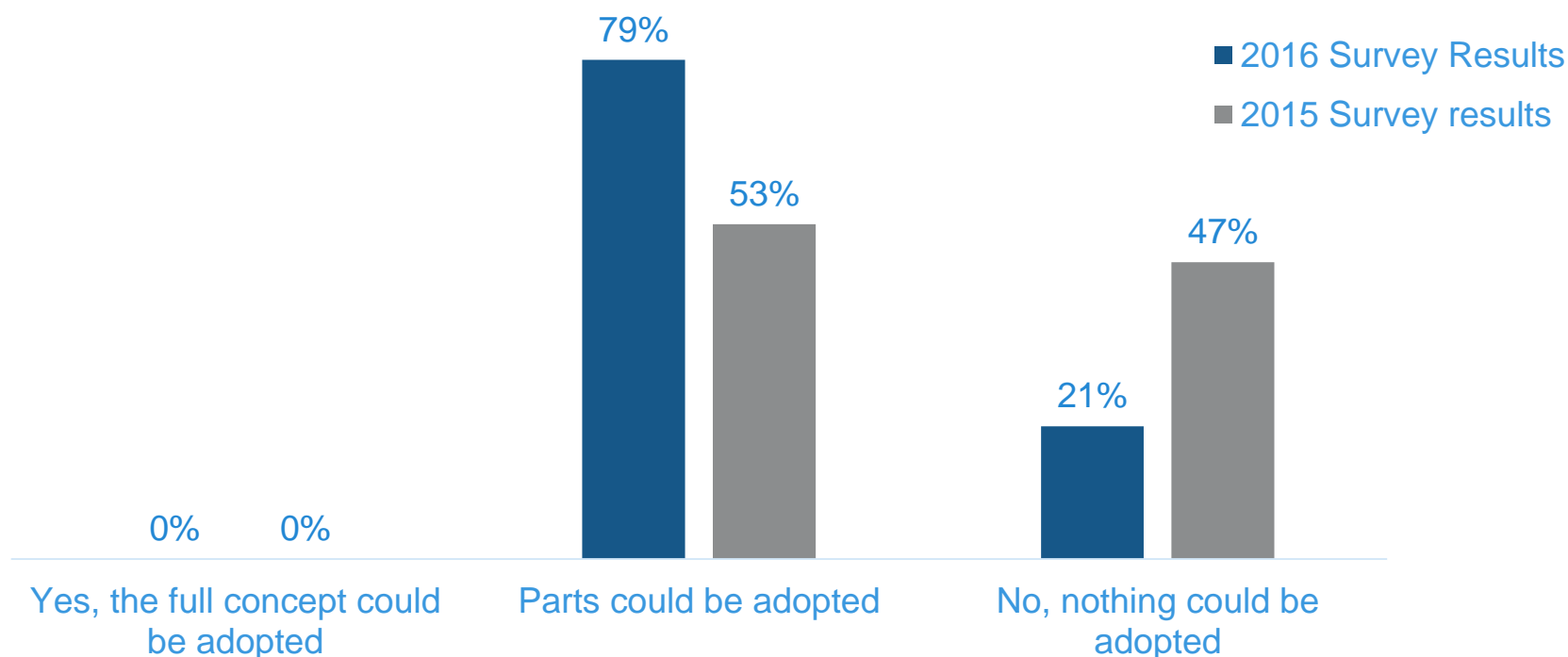
Question 5: Do you think it was the right move to change subsidies from administrative feed in tariffs to competitive tenders?



▶ The vast majority of respondents think it was the right move to change subsidies from administrative feed-in tariffs to competitive tenders.

The majority of respondents believes that parts of the German energy policy could be adopted in their country

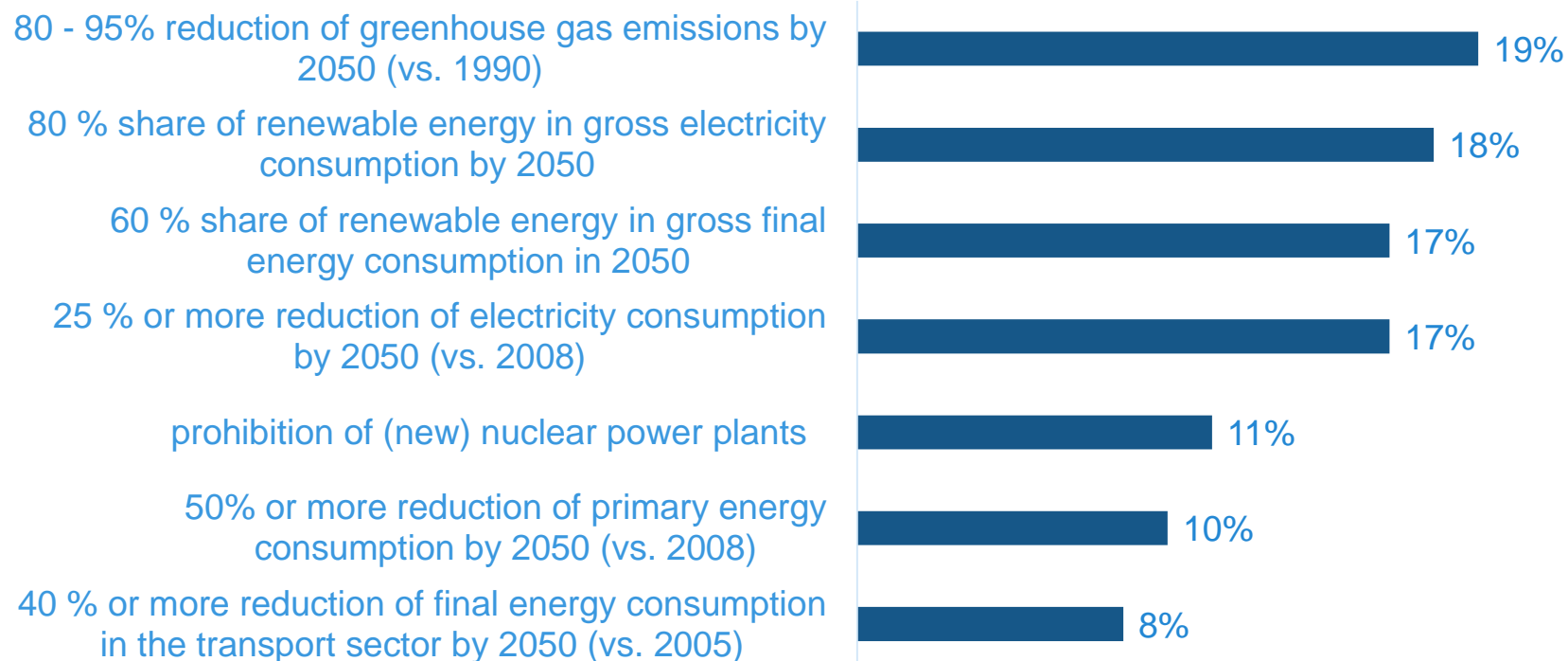
Question 6. Do you expect that your country adopts parts of the German energy policy approach?



No country felt that the full German energy policy concept could be adopted in their country, however the majority of respondents finds that parts of the energy policy could be adopted.

There is no clear consensus on which of Germany's energy policy goals are perceived as the easiest to adopt

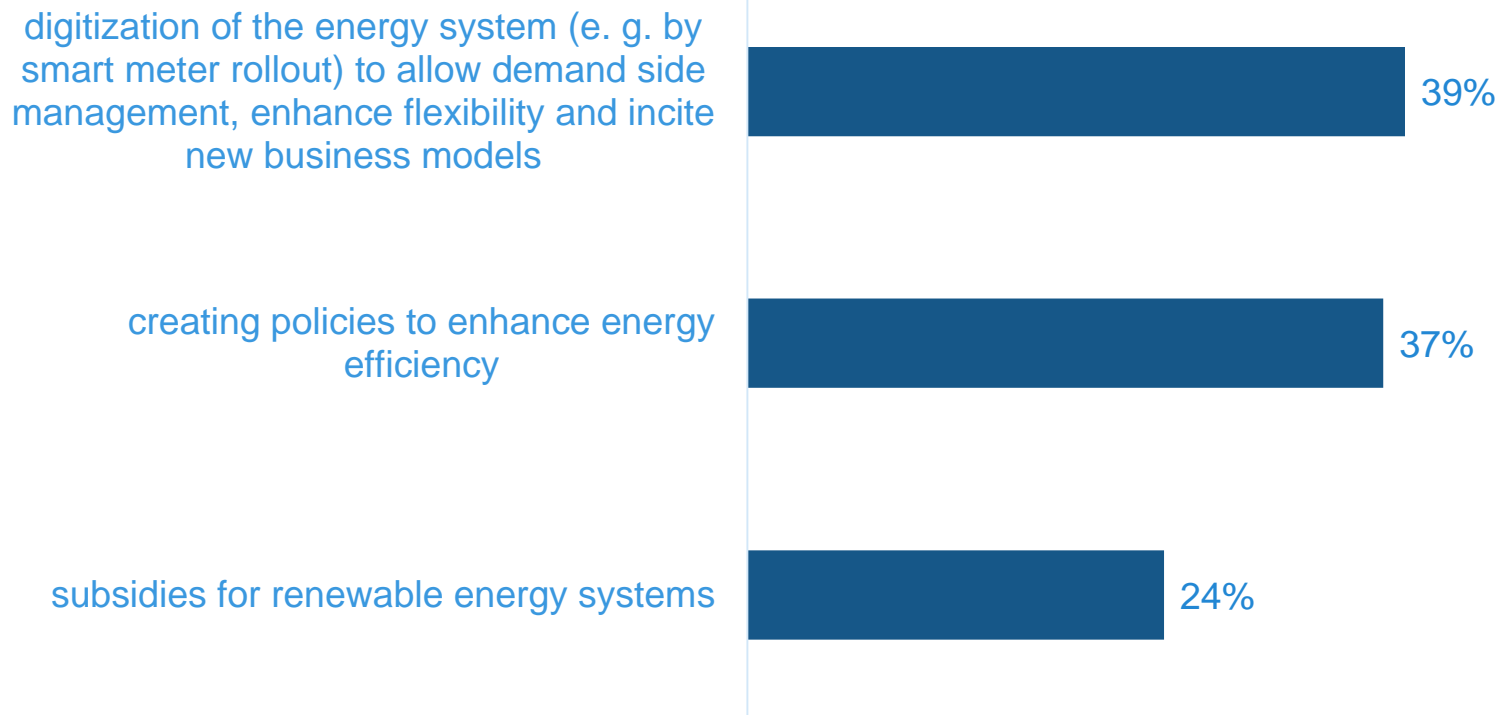
Question 6: Do you expect that your country adopts parts of the German energy policy approach? – Possible answers for “Parts of the concept could be adopted“ (Goals)



- **Reduction of final energy consumption in the transportation sector is the most difficult energy policy goal to adopt for responding countries.**
- **Respondents also perceived goals relating to reduction of primary energy consumption and prohibition of (new) nuclear power plants as difficult to adopt.**

Measures for enhanced digitization and energy efficiency are perceived as promising tools

Question 6: Do you expect that your country adopts parts of the German energy policy approach? – Possible answers for “Parts of the concept could be adopted“ (Measures)



Measures for enhanced digitization and energy efficiency are perceived as promising tools. Respondents perceive measures relating to subsidies for renewable energy systems as the most difficult to adopt.

Expansion of the electricity grid and digitization are relevant to almost all responding countries

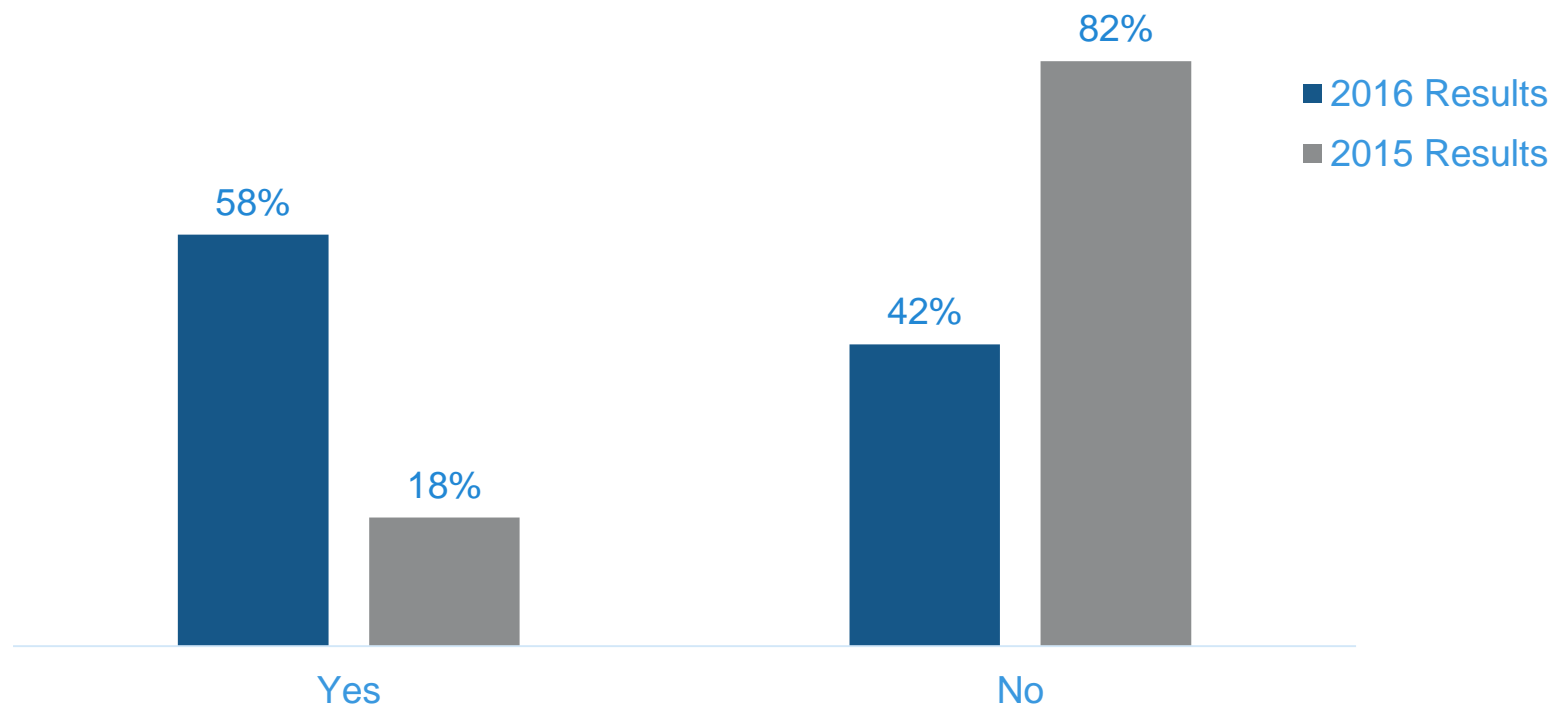
Question 8: Currently a lot of different topics are being discussed in Germany concerning the future of the energy sector. Please indicate which of these topics are relevant for your country.

Topic	Relevant	Irrelevant	Not sure
Expansion of the electricity grid	90%	8%	2%
Digitization and smart energy systems	88%	0%	12%
Development of storage in the electricity system	73%	12%	15%
Sector coupling (electricity, mobility, heating/cooling)	69%	14%	17%
Phase-out of coal	52%	44%	4%
Phase-out of combustion engines in transport by 2030	37%	38%	25%

Expansion of the electricity grid and digitization are relevant to almost all responding countries. Phase-out of coal and phase-out of combustion engines are considered the least relevant topics.

The majority of respondents believe their country has the technical and economic conditions to implement German energy policies

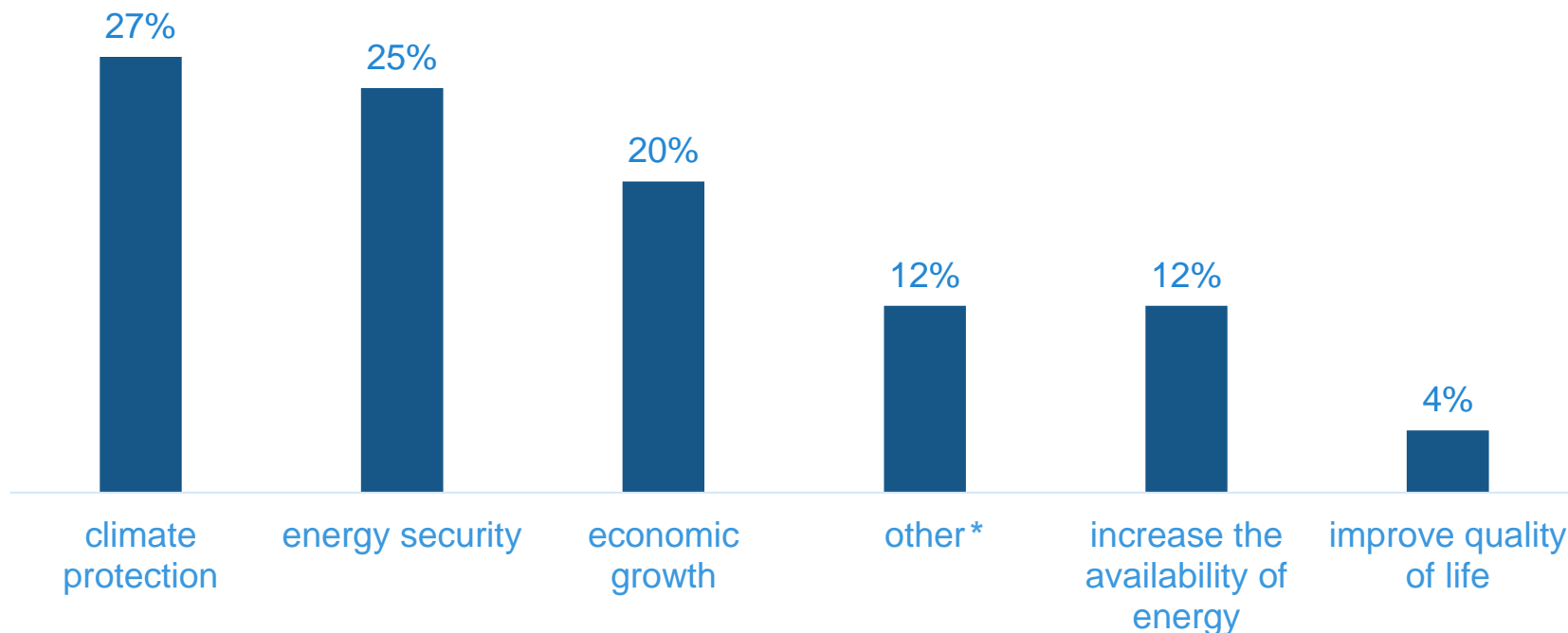
Question 9: In your country, are the technical and economic conditions given to follow the German policy path?



- Perception of country conditions has improved when compared to 2015 results.
- For those that responded 'No' in 2016, some countries mentioned a lack of a coherent European view, insufficient economic and financial conditions and no guarantees on infrastructure investment as some factors.

Climate protection and energy security are primary drivers of many country energy transitions

Question 10: In your country, what is the main driver for an energy transition?

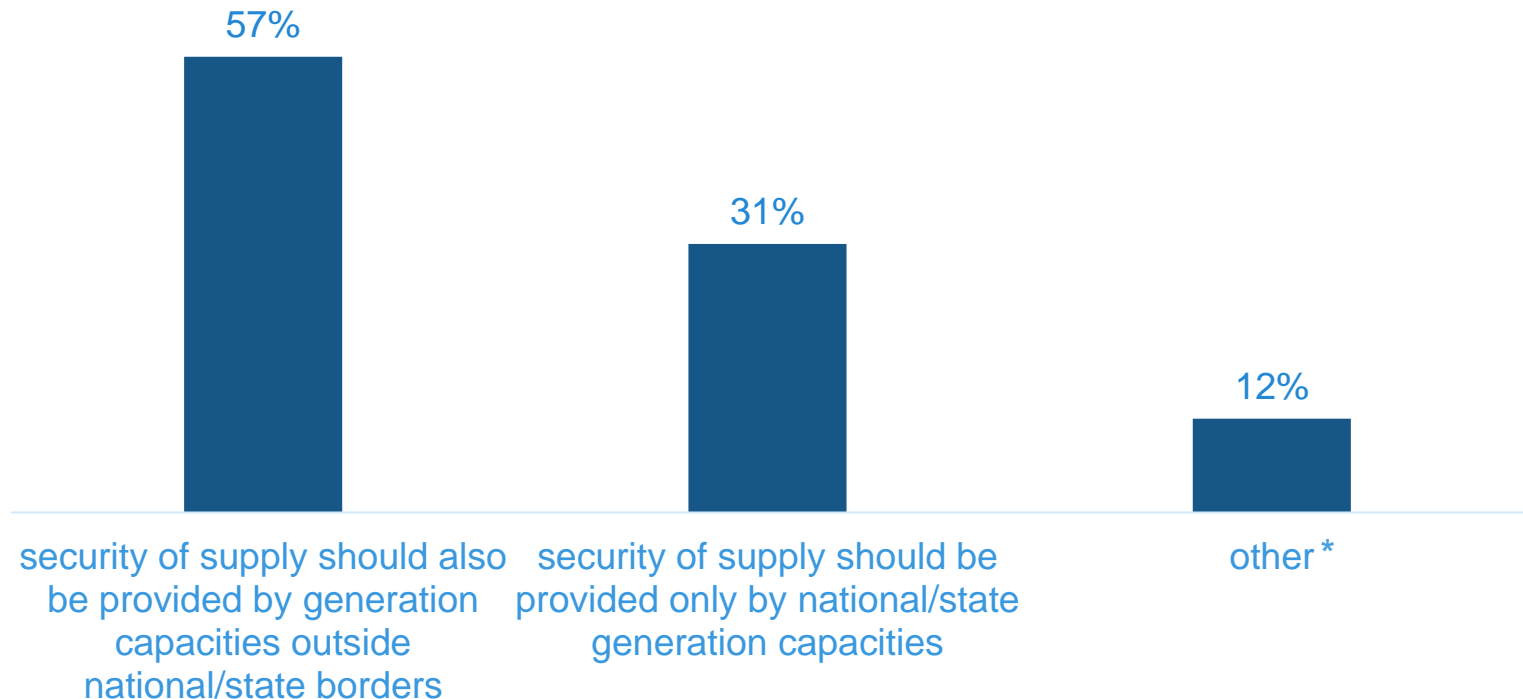


*Other factors driving energy transitions in responder countries included diversification of energy sources, job creation, European policies and the coming end of coal reserves.

▶ Climate protection, energy security and economic growth are the primary drivers of energy transitions world wide.

Security of energy supply is perceived to be enhanced when combined with generation outside of national borders

Question 11. Do you think that security of supply should rely solely on national/state generation capacities, or should it also include generation capacity outside national/state borders?



*Respondents who indicated 'other,' pointed out that security of supply can have different meanings. In "periods of crisis," some felt energy should be generated solely from national sources. Others indicated that the reliability of ones neighboring countries is a key factor in determining the viability of regional cooperation.

The majority of respondents think that security of supply should also include generation capacity outside national/state borders.

Energy efficiency measures and carbon pricing are perceived as the most effective strategies in tackling climate change

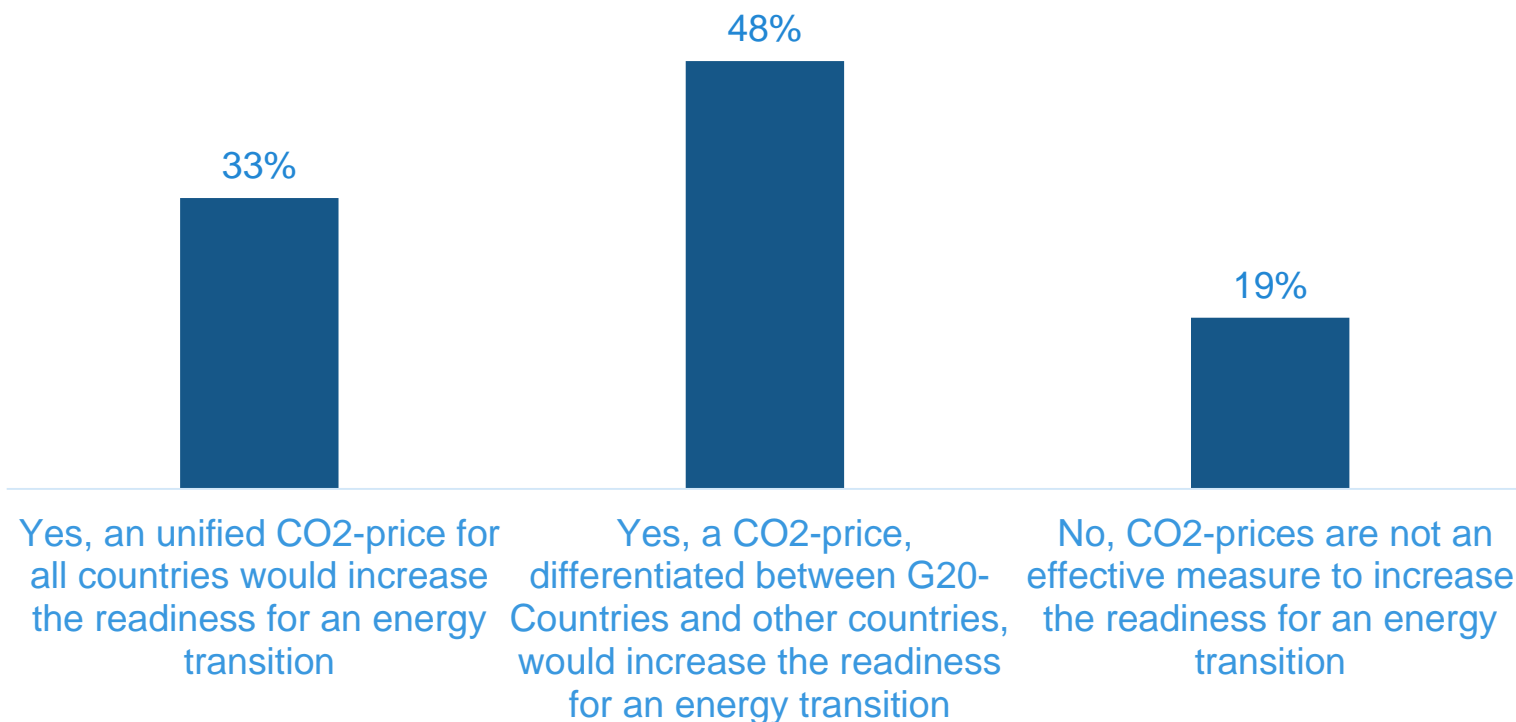
Question 12: How effective do you consider the following measures to tackle climate change?

Measure	Effective	Ineffective	Not sure/don't know
Energy efficiency measures	92%	6%	2%
Cut of subsidies for fossil fuels	77%	12%	11%
Carbon Tax	75%	12%	13%
Phase-out of coal	73%	14%	13%
Use of gas instead of other fossil fuels	69%	17%	14%
Electrification (heating/cooling, mobility)	67%	10%	23%
Emission Trading System	56%	27%	17%
Subsidies for renewables	52%	42%	6%
Financial support for CCS/CCU	47%	29%	24%
Phase-out of all fossil fuels	42%	35%	23%
Use of hydrogen	38%	21%	41%
Subsidies for nuclear power	37%	38%	25%
Power to gas/chemistry/fuels	29%	21%	50%

 There is broad consensus that energy efficiency measures are the most effective strategy for tackling climate change.

Over 80% of respondents believe a CO2 price would increase the readiness for an energy transition in their country

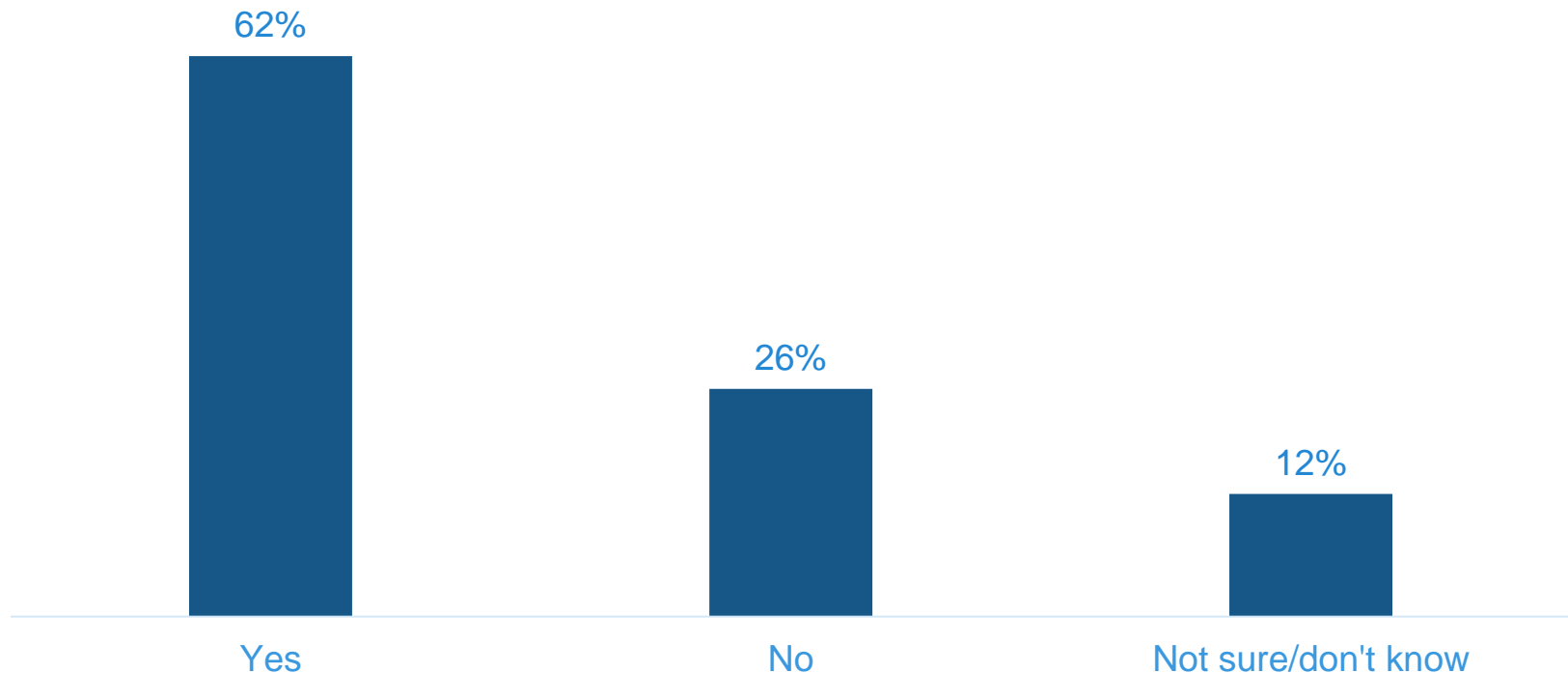
Question 13: Do you think a CO2-price, creating a global level playing field, would increase the readiness in your country to adopt an energy transition similar to the German Energiewende?



- The majority of respondents believe a CO2 price would increase the readiness for an energy transition in their country.
- Respondents are even more optimistic about a CO2 price that is differentiated between G-20 countries and other countries, versus a CO2 price that is not.

The Paris Agreement has led to more ambitious climate protection targets in many responders' countries

Question 14: Has the UNFCCC 2015 Paris Agreement (COP 21) led to more ambitious targets for climate protection in your country?



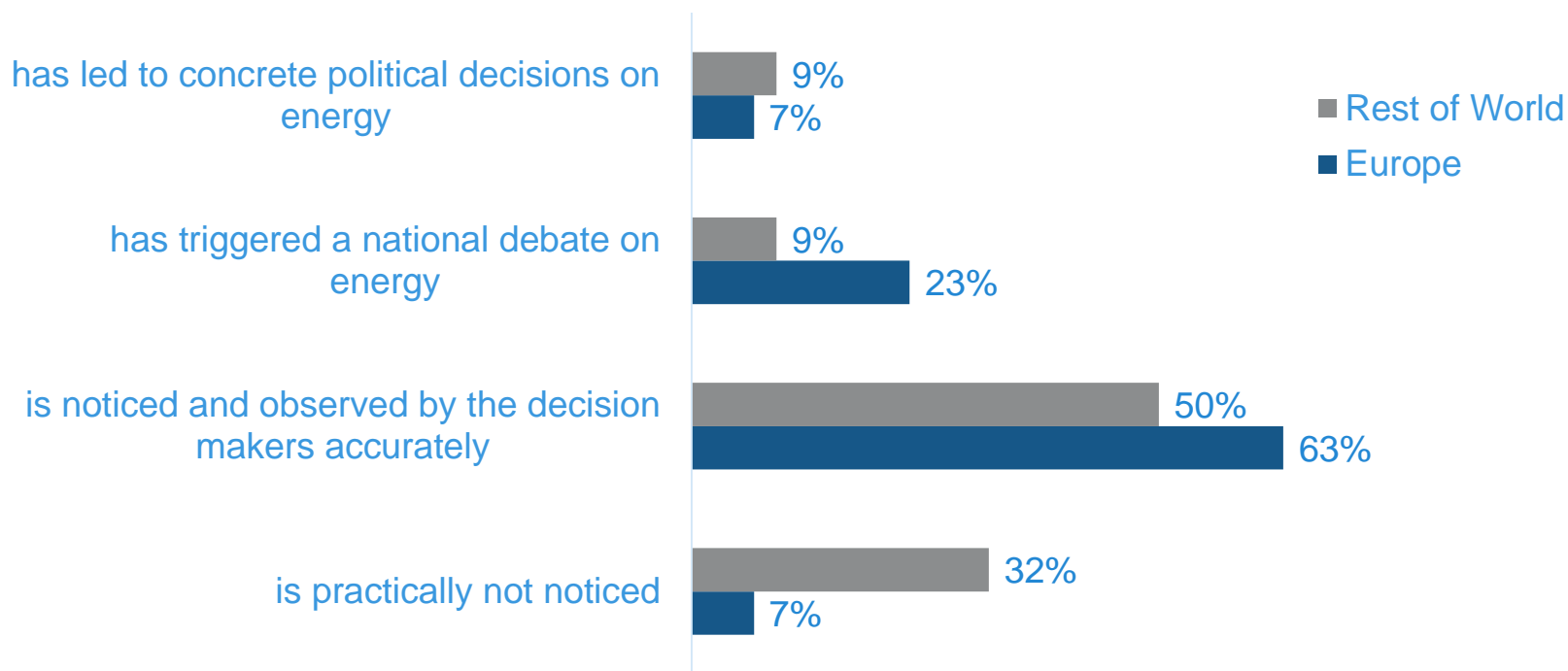
▶ The majority of respondents indicated that the Paris Agreement has led to more ambitious targets for climate protection in their countries.

Agenda

- 1 Global View – 42 countries
- 2 **Europe vs. Rest of the World View – 24 vs. 18 countries**

European respondents are more affected by the German energy transition

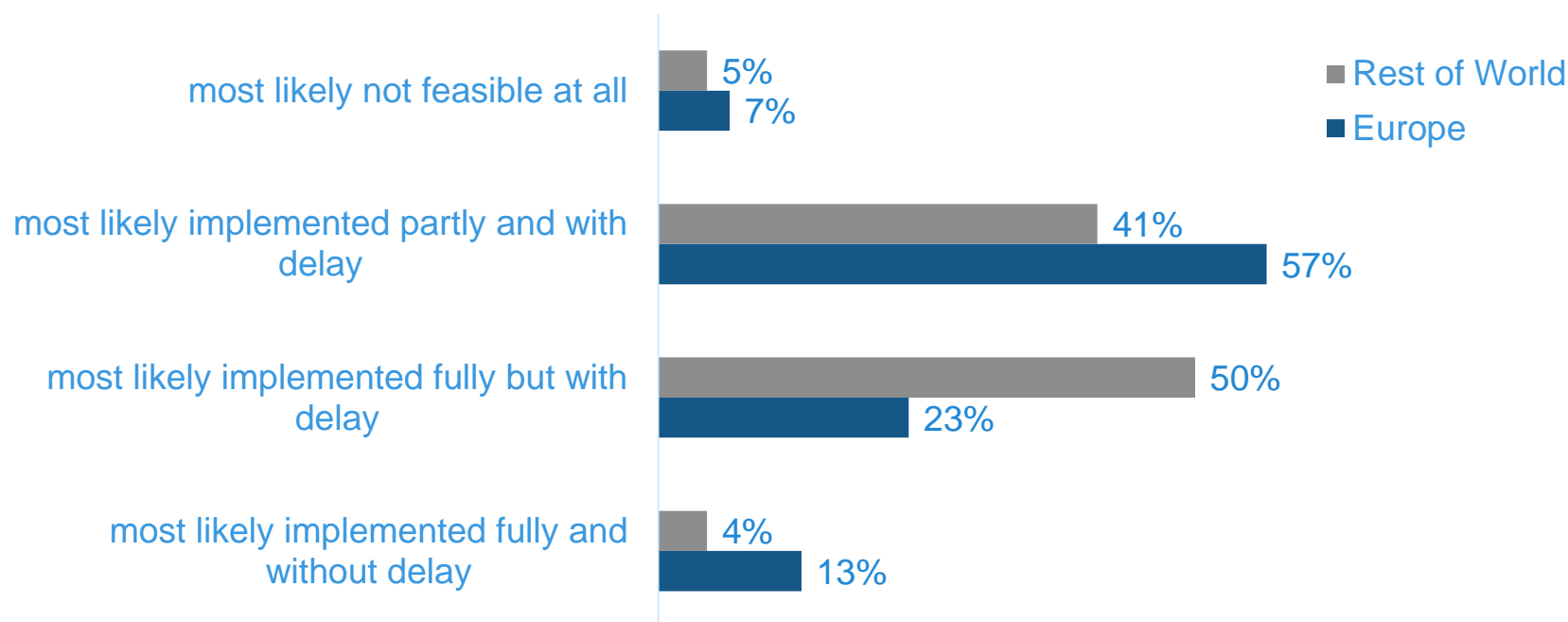
Question 1: How is the current German energy policy perceived in your country?



- **Approximately one quarter of European respondents stated that the German energy policy has triggered a national debate on energy in their country.**
- **In comparison, almost a third of non-European respondents stated the German energy policy was practically not noticed.**

Our European neighbors are less confident that all of the German goals can be achieved, even with a delay

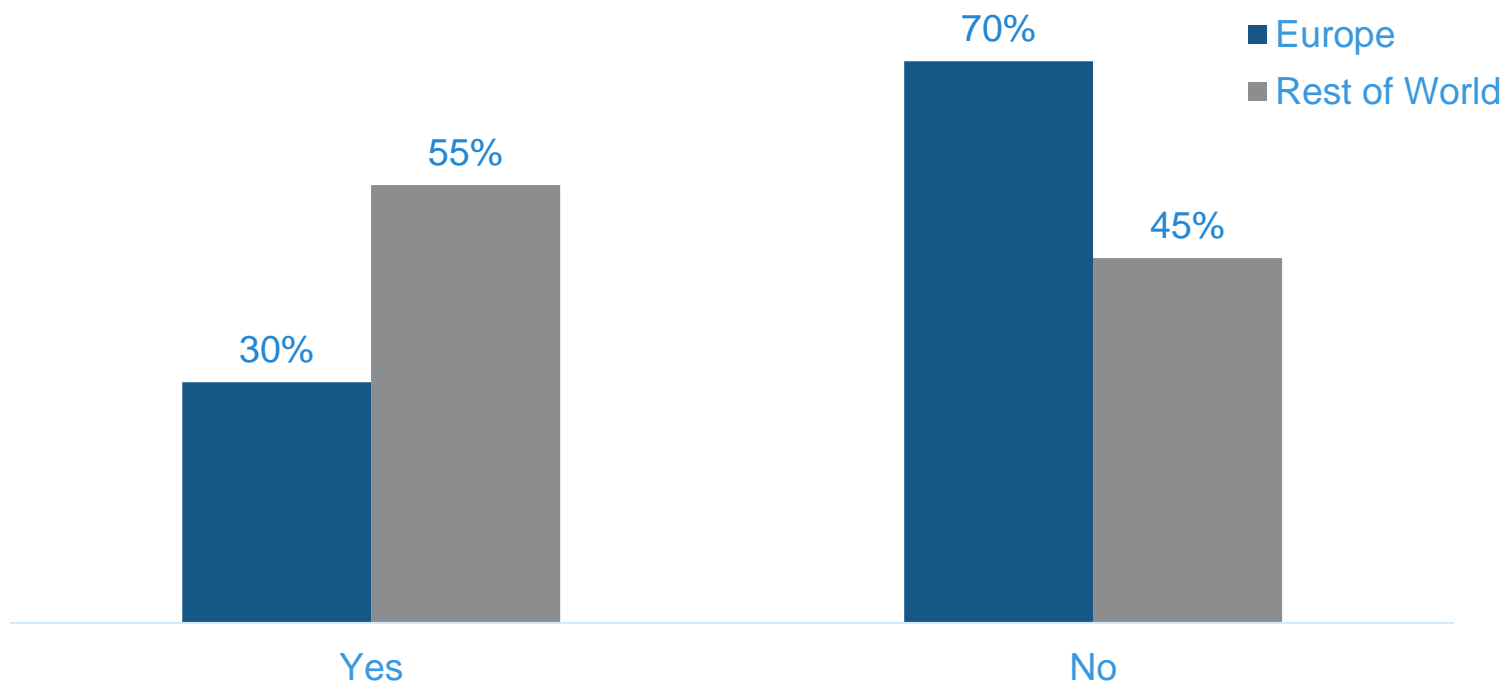
Question 2: How do you assess the feasibility of the German goals?



- **With delay, 50% of non-European respondents believe we can achieve all of our stated goals. Our European neighbors are not so confident.**
- **However, more Europeans respondents believe the goals can be ‘implemented fully and without delay’ compared to the rest of the world.**

Non-European countries are more optimistic about whether Germany's energy policy could serve as a global blueprint

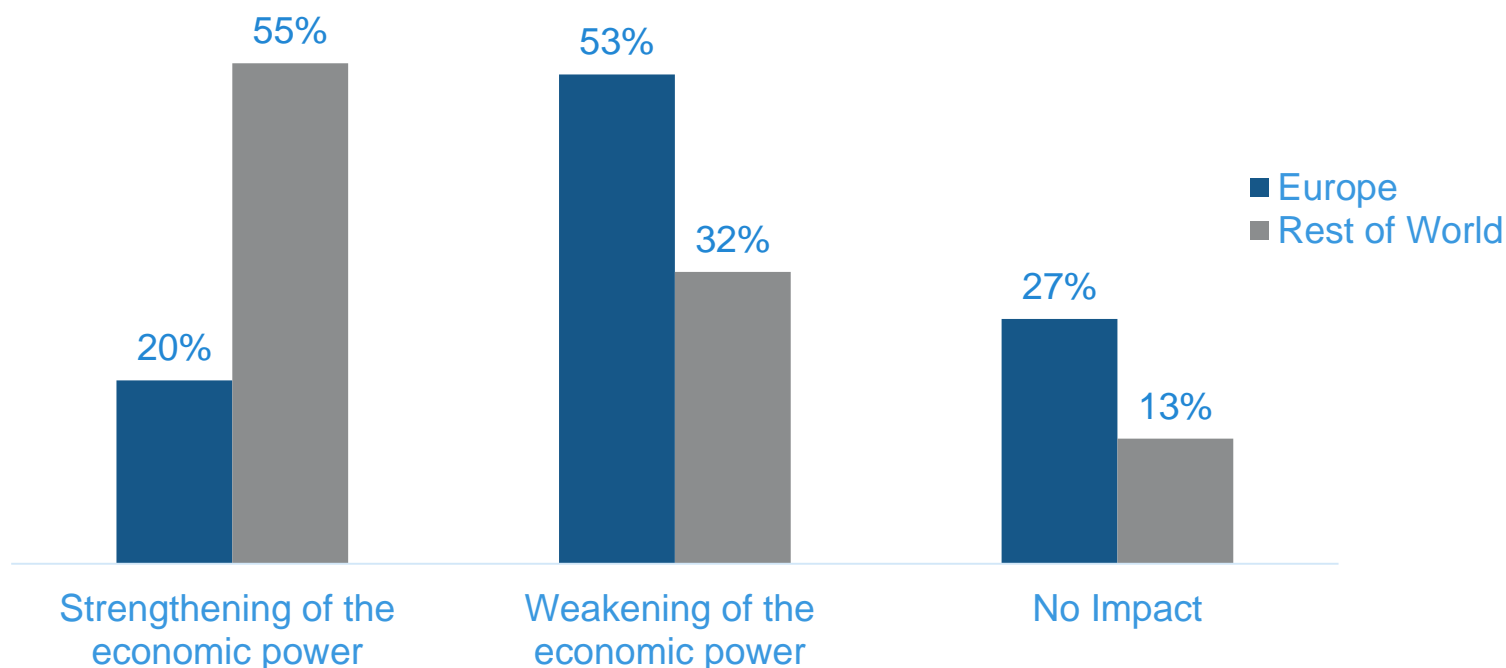
Question 3: Could the current German energy policy serve as a blueprint for the world?



▶ **Non-Europeans seem to acknowledge the 'visionary character' of the energy transition project.**

In the short-term, non-European respondents are more optimistic about potential impacts to Germany's economic power

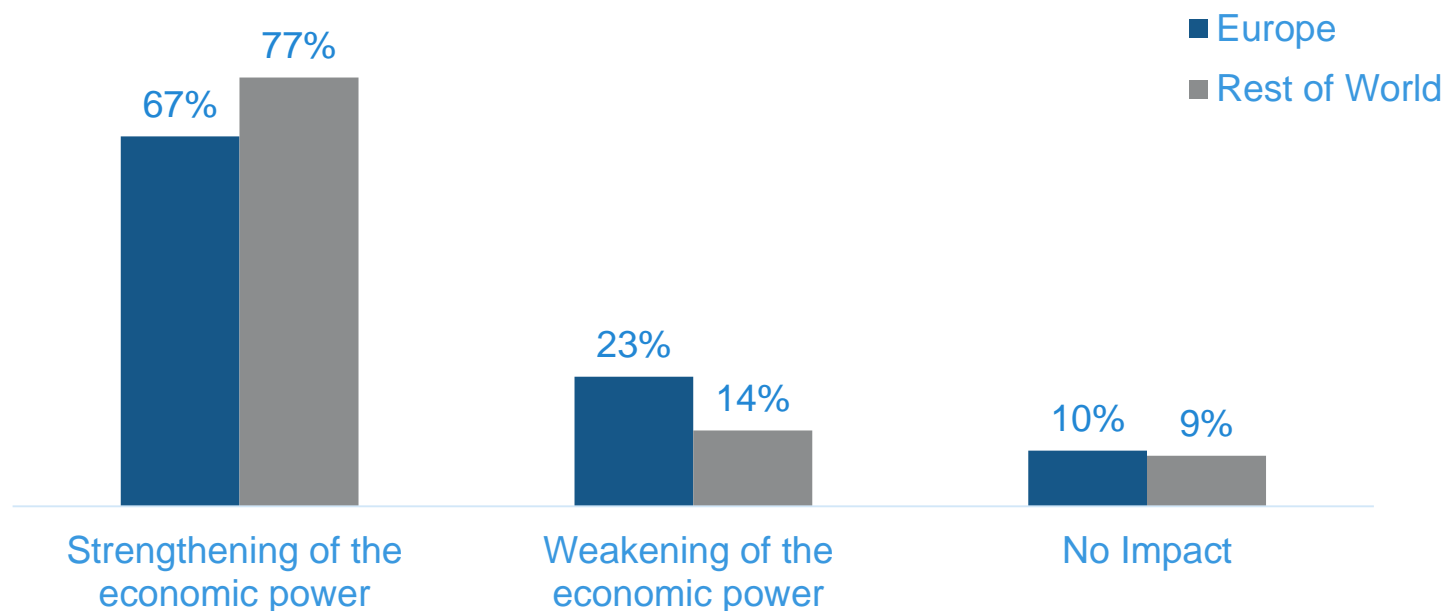
Question 4: What impact do you expect for the economic power of Germany due to the current energy policy? (Short-/medium-term)



▶ In the short-/medium-term, the majority of non-European respondents believe the energy policy will strengthen Germany's economic power; respondents from inside Europe do not share these views.

In the long-term, the majority of all respondents expect that the energy policy will strengthen Germany's economic power

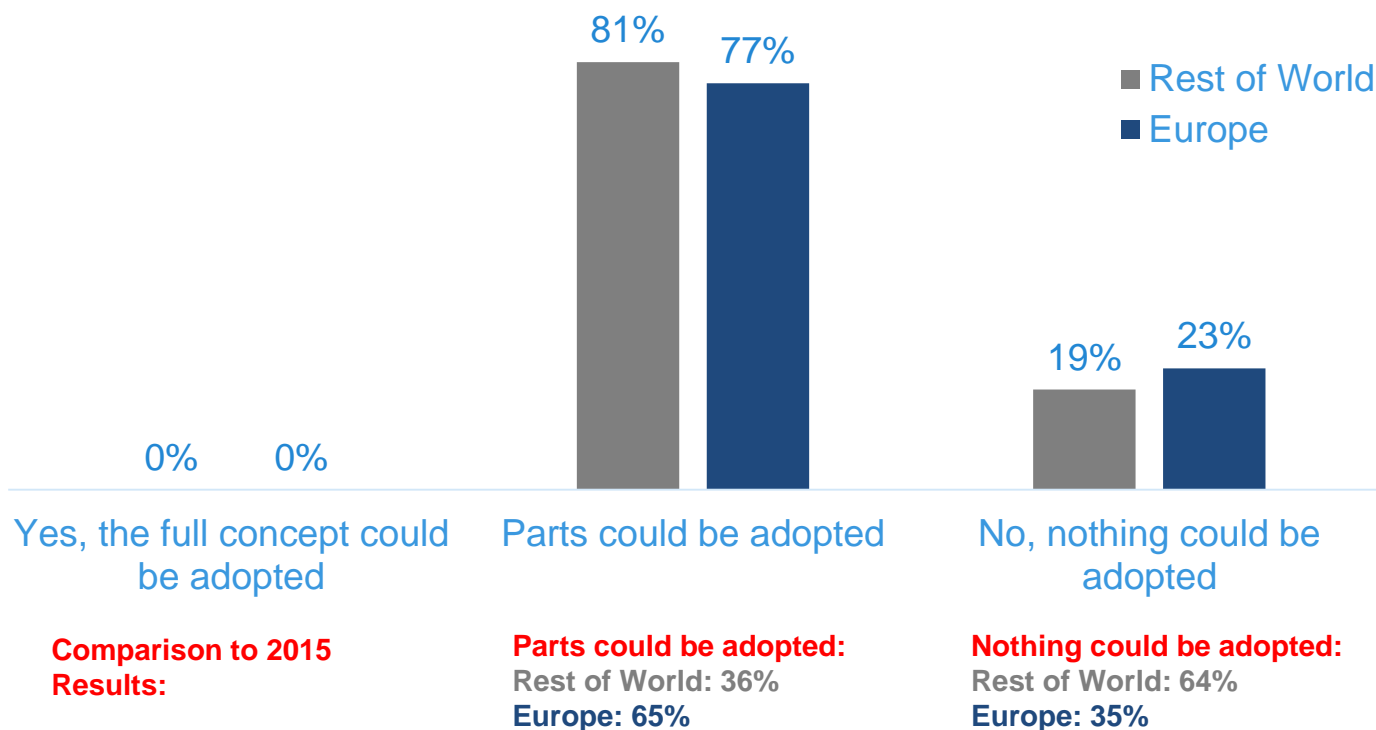
Question 4: What impact do you expect for the economic power of Germany due to the current energy policy? (Long-term)



▶ The majority of all respondents agree that the long-term impacts of the energy policy will strengthen Germany's economic power.

Both European and non-European respondents expect that parts of the German energy policy could be adopted in their country

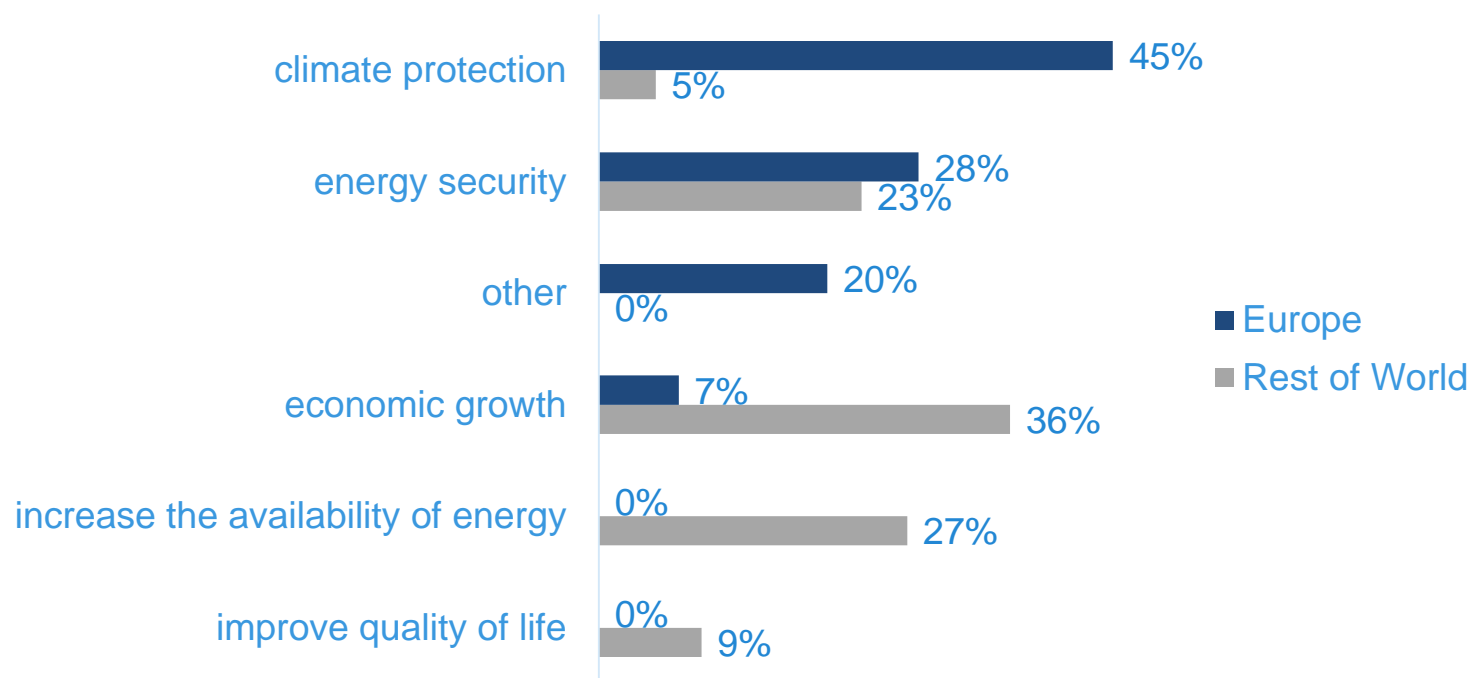
Question 6: Do you expect that your country adopts parts of the German energy policy approach?



▶ Slightly more European respondents believe that nothing could be adopted from the German energy policy, while slightly more non-European respondents believe that parts could be adopted.

For European responders climate protection is the primary driver of energy transitions – for Non-European respondents the focus is on economic growth

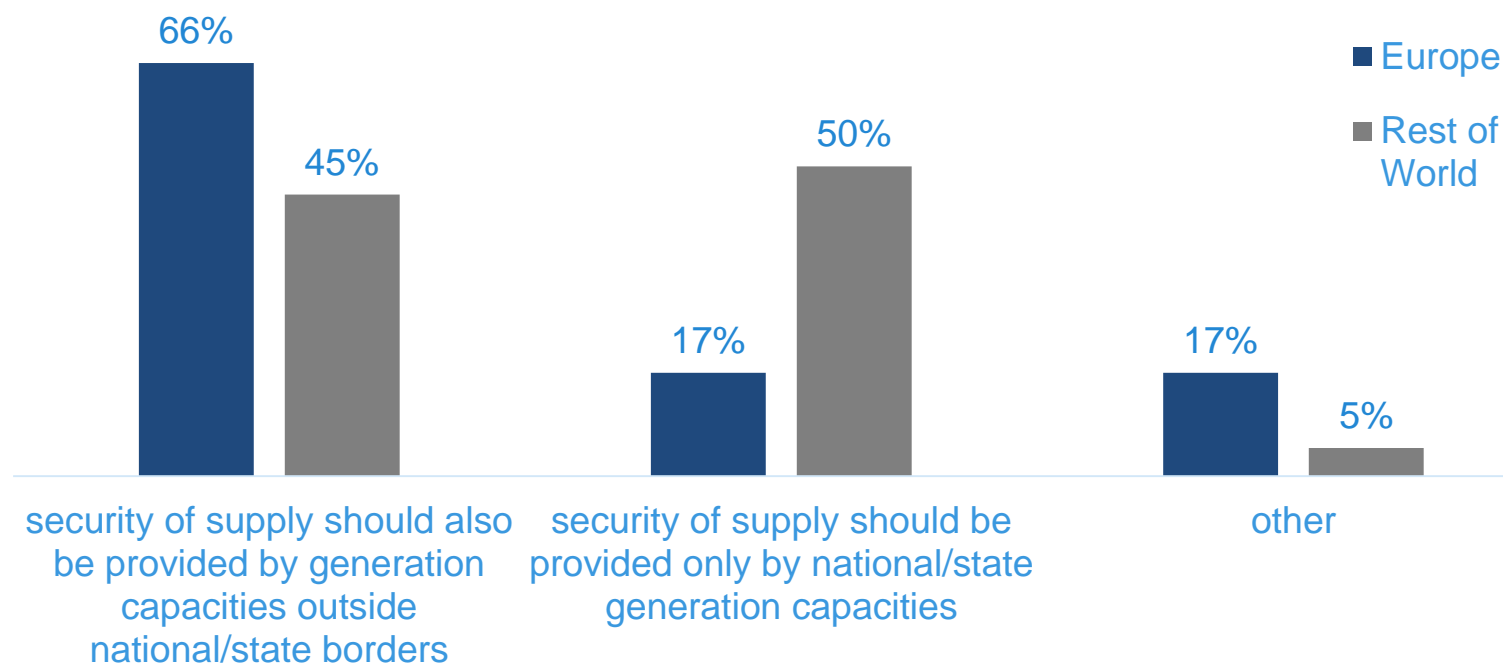
Question 10: In your country, what is the main driver for an energy transition?



- ▶ **Outside of Europe, very few respondents consider climate protection to be a main driver. Instead, economic growth and increasing the availability of energy are considered the main drivers.**
- **Conversely, the majority of European respondents consider climate protection and energy security to be the main drivers.**

Europeans believe security of supply is enhanced when combined with generation capacity outside national borders

Question 11: Do you think that security of supply should rely solely on national/state generation capacities, or should it also include generation capacity outside national/state borders?



▶ **Europeans believe security of supply is enhanced when combined with generation capacity outside national borders. On the other hand, the majority of non-European respondents believe that energy security should rely on national capacities only.**

Overview of Responding Countries

European countries

- ▶ Argentina
- ▶ Armenia Republic
- ▶ Austria
- ▶ Belgium
- ▶ Bulgaria
- ▶ Czech Republic
- ▶ Denmark
- ▶ Estonia
- ▶ Finland
- ▶ France
- ▶ Belgium
- ▶ Hungary
- ▶ Italy
- ▶ Latvia
- ▶ Lithuania
- ▶ Monaco
- ▶ Netherlands
- ▶ Norway
- ▶ Poland
- ▶ Portugal
- ▶ Serbia
- ▶ Sweden
- ▶ Switzerland
- ▶ Turkey

Countries outside of Europe

- ▶ Algeria
- ▶ Botswana
- ▶ Cameroon
- ▶ Colombia
- ▶ Ecuador
- ▶ Ghana
- ▶ Hong Kong
- ▶ Japan
- ▶ Kazakstan
- ▶ Mexico
- ▶ South Africa
- ▶ Swaziland
- ▶ Thailand
- ▶ Trinidad and Tobago
- ▶ Iran
- ▶ Dubai UAE
- ▶ Canada
- ▶ USA

Thank you

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