WORLD ECONOMIC FORUM

# Accelerating an Equitable Transition: Policy Guidelines for Impact

INSIGHT REPORT

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**Cover:** Unsplash

# Contents

# Executive summary

The march of climate change continues to gather pace, despite growing efforts to mitigate its impacts around the world. In 2023, the global average temperature reached 1.45°C above pre-industrial levels,[1] making it the warmest year on record, with 2024 setting new temperature highs. Continuation of current policies may lead to a temperature rise of up to 3.1°C. To stay on a path that limits warming to 1.5°C by 2050, countries must commit to reducing emissions by 42% by 2030 and 57% by 2035,[2] as part of their next round of Nationally Determined Contributions (NDCs).

Climate change mitigation is not only a technological and financial challenge but also a profound socioeconomic transformation, an opportunity to address current inequalities and create an economy that works for people and planet. As the scope of climate policies expands to meet the 1.5°C target, economic equity must be a key design principle to make sure the costs and benefits of the transition are fairly distributed among relevant stakeholders. As of 2023, the NDCs of 72 countries explicitly include the concept of a "just transition",[3] which reflects a growing recognition, with varying interpretations and depth, of the social dimensions of climate action. The upcoming update of NDCs, due to be submitted prior to COP30 in 2025, presents a critical opportunity to anchor equity more consistently, coherently and comprehensively in national climate action plans.

This paper is part of a series of insights developed by the **Equitable Transition Initiative** of the World Economic Forum, with the support of the Laudes Foundation, to provide tools and frameworks and shape country-level action towards a green and fair net-zero transition. It draws on extensive consultations and on the knowledge and insight of the **Global Future Council on the Economics of Equitable Transition**.

The paper outlines five key guidelines to integrate equity considerations throughout the climate policy cycle, from design and implementation to monitoring and evaluation. It also presents new country-level data on the sentiment of the business community regarding the economic and equity impacts of the green transition in their country.

Globally, nearly 80% of executives surveyed as part of the Forum's Executive Opinion Survey expect that unequal access to capital and financing will characterize the transition of at least one major economic sector in their country. In addition, one out of every two of those surveyed foresees an increase in cost of living and one in three fears some form of job displacement across the economy.

To address some of these potential economic-equity risks, this paper puts forward the following five policy guidelines:

1. **Context specificity:** Factors such as a country's development level, sectoral makeup, technological capacity and governance structures can significantly influence the distributional impacts of climate policies. Context-specific policy design ensures that vulnerable groups are not disproportionately burdened by climate measures. Understanding these local conditions allows for policies that maximize co-benefits, such as job creation and economic growth, while minimizing adverse effects on disadvantaged communities.

2. **Targeted support:** Socioeconomic disruptions of climate policies can disproportionately affect low-income households, workers in carbon-intensive industries and marginalized communities. To address these challenges, targeted support programmes – such as cash transfers, tax incentives and subsidies for clean technologies – are vital. Furthermore, ongoing feedback loops and administrative capacity are essential to adapt these support measures over time.

3. **Policy sequencing:** The transition to net-zero emissions requires policies that are not only ambitious but also phased in a way that builds political support and minimizes disruption. This includes increasing stringency of measures over time, synchronizing with development of enabling factors, and providing targeted support in measures parallel to implementation of policy instruments.

4. **Stakeholder engagement and social dialogue:** A wide range of stakeholders, including local communities, workers, businesses and civil society groups, should be consulted throughout the policy process. Effective engagement can build trust, ensure transparency and foster a sense of ownership and cooperation among affected groups, leading to more equitable policy outcomes.

5. **Communication and awareness:** Clear, consistent communication about the benefits of climate action – such as improved air quality, job creation, and economic opportunities – can foster an opportunity-centred narrative of climate action. Tailored communication that takes into account cultural norms, local conditions and equitable access to information can help build broader public support and ensure that all communities are informed and engaged in the green transition.

These guidelines can enable a coherent approach to equitable transition and reinforce climate mitigation efforts across different policy areas – including labour, education, social welfare, planning, energy and environment. Effectively integrating these guidelines into the design of national climate action plans can signal strong commitment to equity and justice and mobilize the whole-of-society response necessary for timely realization of climate goals.

# 1 Introduction

On 22 July 2024, the world experienced its highest daily global global temperature on record, 17.16°C. Prior to that, each of the first six months of 2024 saw new global temperature records set, extending a string of seven record-setting months in 2023.[4] Extreme heat now kills an estimated half a million people a year.[5] Other extreme weather events, from wildfires to droughts to tornados, have imposed significant human and economic costs across the globe. The impacts of climate change are spreading and intensifying, motivating an acceleration of climate action to halt its most devastating impacts.

The imperative to accelerate climate action, however, is only viable if it is rooted in an understanding of the uneven causes and effects of climate change – both historic and current – and effectively addresses the asymmetries in costs and benefits associated with climate action.

Integrating equity across the portfolio and cycle of mitigation policies is central to this effort. This paper investigates different layers of interactions between climate change and inequality, proposes guidelines for equity-aligned domestic mitigation policies, and illustrates examples of the same.

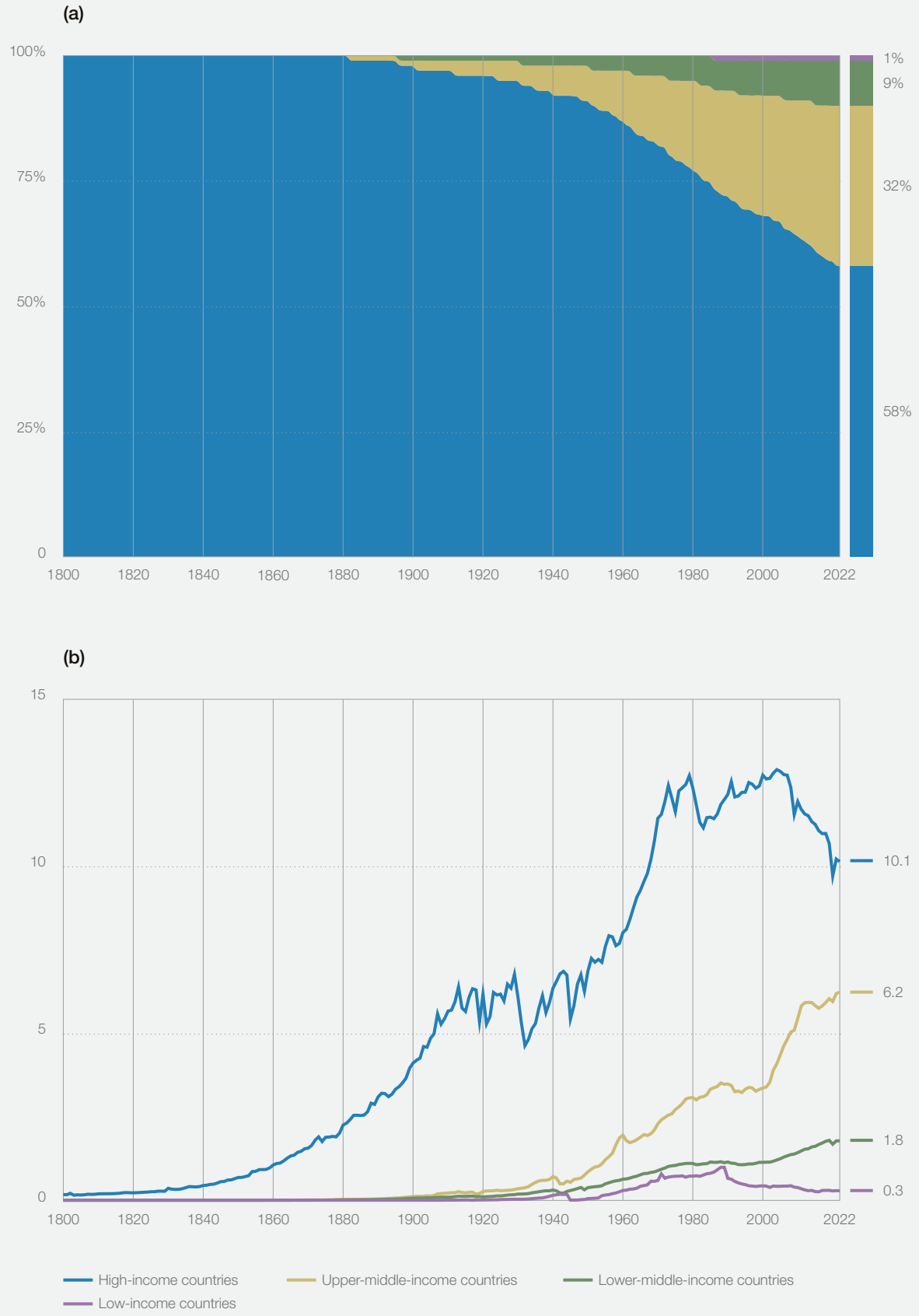
## 1.1 Climate-inequality nexus: Historic footprints

While all regions are exposed to the adverse impacts of climate change, the countries most affected by climate change today are those that have, historically, contributed least to the problem. For example, by some estimates, North America and Europe are expected to withstand permanent reductions in median income of approximately 11% as a result of climate change, while South Asia and Africa are the regions most strongly affected, with estimated median income reductions of approximately 22%.[6] Per-capita $CO_2$ emission levels in low- and lower-middle income countries remain substantially lower than that of high-income countries (Figure 1 [b]). The share of cumulative historical emissions of high-income countries over time is actually declining, driven by innovations in green technologies, ambitious climate policies and an economic shift to low energy-intensive industrial sectors, and as economic growth and population has surged in low- and lower-middle income countries. However, high-income countries still account for more than 50% of cumulative historical emissions (Figure 1 [a]). Countries' respective responsibility towards mitigating climate change remains at the core of the just transition challenge.

Additionally, individual emissions footprints mirror similar inequalities, across income distribution within countries. The top 10% of income earners account for more than one-half of global emissions, and within-country inequality now makes up for two-thirds of global emissions inequality. Climate action must acknowledge historic disparities to ensure those with historically low climate footprints are not denied the opportunity of improving living standards, and to recognize the shared responsibility underpinning the prospect of "leapfrogging" to green growth, without which the trade-offs between climate and economic development may not be appropriately reconciled.

FIGURE 01

**(a) Share of global cumulative $CO_2$ emissions, by income group, 1800-2020, (b) Per-capita $CO_2$ emissions, by income group, 1800-2020**




Source

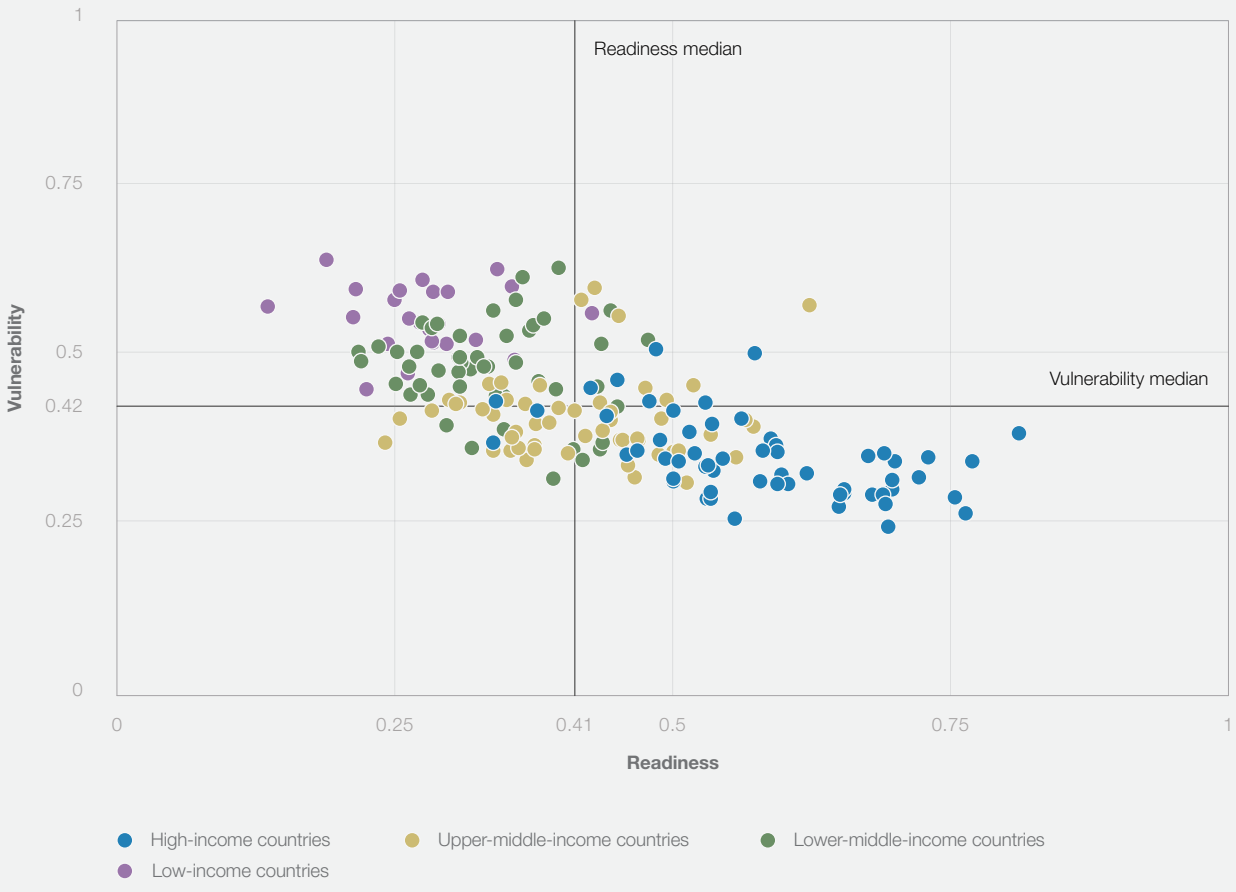
Global Carbon Budget (2023)

## 1.2 Climate-inequality nexus: Exposure to climate hazards and adaptation capacity

The inequality in historical contributions to climate change is reinforced by inequalities in the exposure to climate hazards and adaptation capacity. For example, nearly one in 5 people is likely to experience a severe weather shock that they are going to struggle to recover from.[7] The Global Adaptation Index 2022, which summarizes a country's vulnerability to climate change and its readiness to improve resilience, highlights that 81% of the top 100 best-performing countries are high- or upper-middle income (Figure 2).[8]

Historic disparities in climate footprints, as well as present-day inequities in exposure to climate hazards and the capacity to adapt, correlate with national income. Similar to individual footprints of greenhouse gas (GHG) emissions, the exposure to impacts of climate change and capability to adapt also varies across income and channels of impacts can exacerbate existing inequalities. Furthermore, marginalized groups (for example, women and indigenous peoples) often rely heavily on natural resources for their livelihoods and lack access to savings, credit and insurance to cope with and recover from climate hazards. These communities are, consequently, disproportionately exposed to the most devastating long-term consequences of climate change.[9] Recurrent climate shocks can not only increase poverty levels, but also trap households in long-term poverty cycles. Climate action must, therefore, recognize the unevenness in the causes and effects of climate change to ensure the burden of responsibility is not unfairly on those most exposed but least equipped to respond.

FIGURE 02 **Vulnerability to negative effects of climate change and readiness to adaptation for countries, by income group**




Source

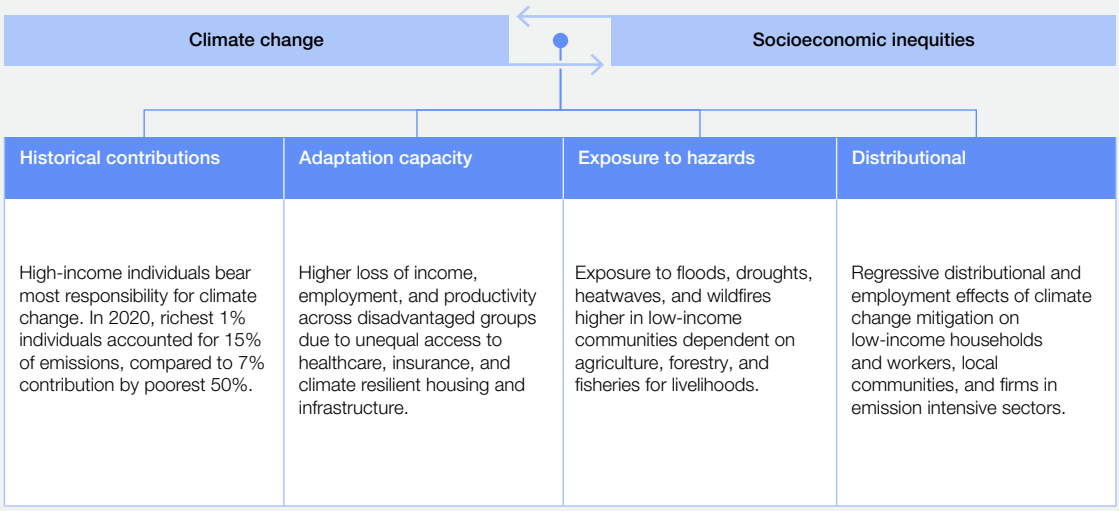
Norte Dame Global Adaptation Initiative, 2022.

# 1.3 Climate-inequality nexus: Distributional impacts of mitigation action

An additional dimension in the climate-inequality nexus includes distributional inequality, which pertains to the uneven distribution in costs and benefits of climate-mitigation action. Historic inequalities and inequalities associated with exposure to climate hazards and adaptation capacity are a product of unevenness in the causes and effects of climate change, driven by inequality in consumption and emissions. In contrast, distributional inequalities are a risk driven by climate-mitigation action. Climate action does not necessarily create socioeconomic inequalities, but mitigation policies can have regressive impacts that exacerbate existing divides. For example, energy costs can constitute a significant share of the income of low-income households, despite absolute levels of usage being comparatively lower than those of their wealthier counterparts. Many in this demographic rely upon outdated appliances and live in poorly insulated housing. The imposition of energy-efficiency standards can impose disproportionate costs for this segment of the population who, in the absence of support, may not have the means to shift consumption to more energy-efficient alternatives and, therefore, be exposed to higher costs. Regressive employment effects of climate-mitigation policies can be significant in countries with heavy installed base of emissions-intensive industrial sectors. As noted in the World Bank's 2022 China Country Climate and Development Report, the demographic profile of individuals in sectors that contract due to climate action will differ substantially from those in sectors that expand as a result.

Climate change intersects with and reinforces socioeconomic inequality across geographies and timespans (Figure 3). As climate mitigation accelerates, the incidence of climate hazards and their adverse distributional implications can reduce. However, it also imposes immediate costs to workers, consumers, and small businesses, with increase in severity with pace and scope of mitigation efforts.

FIGURE 03 **Intersection of climate and socioeconomic inequities**




Source
World Economic Forum.

In the absence of fairness in the distribution of costs and benefits of mitigation action, climate-mitigation action can exacerbate existing distributional impacts and create new divides, ultimately generating pushback to net-zero transition efforts.

Recent climate policy protests and policy reversals, for example (Figure 4), point to the consequences of neglecting to address the costs and benefits of mitigation action that are unevenly distributed within societies.

FIGURE 04 **Snapshot of pushback to climate action**

| Country | Year | Climate policy reversals and protests |
|---|---|---|
| European Union | 2024 | Revision of Common Agriculture Policy, including sustainable farming criteria[13] |
| Indonesia | 2024 | Reduction in near-term renewable energy from 23% to 17-19%[15] |
| Nigeria | 2024 | Protests against inflationary impact of fuel subsidy removal[19] |
| South Africa | 2024 | Delays in planned coal plant closures[23] |
| Angola | 2023 | Slowing the removal of fossil fuel subsidies after protests[18] |
| Canada | 2023 | Three-year pause on carbon price for home heating oil to address rising costs of living[14] |
| Colombia | 2023 | Protests against gasoline price hikes[20] |
| Germany | 2023 | Extended deadlines for phaseout installation of fossil-fuel boilers[12] |
| Pakistan | 2023 | Nationwide protests against high electricity prices[16] |
| United Kingdom | 2023 | Extended deadlines for phaseout sale of new combustion engine cars and installation of gas boilers[11] |
| United States of America | 2023 | Auto workers' strikes, also linked to labour impacts of transition to electric vehicles[22] |
| Kazakhstan | 2022 | Nationwide protests against removal of price caps on liquefied petroleum gas (LPG) |
| Brazil[24] | 2019 | Weakening of legal environmental frameworks |
| Ecuador | 2019 | Protests leading to cancellation of fuel subsidy cuts[17] |
| France | 2019 | Halted fuel-tax increases initially proposed to reduce emissions[10] |
| Poland | 2015 | Protests against closure of hard coal mines[21] |

Source

World Economic Forum, Executive Opinion Survey 2024

Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as "Fossil-fuel exporters" in light of OPEC or OPEC-plus membership.

*Table includes selected examples of climate policy reversals or energy reform protests at national levels only. Examples do not indicate continued effects of the incidents.

Ensuring mitigation policies are progressive in their design and implementation is critical to building broad-based public support for accelerated climate action. It will be impossible to contain global temperature rises to 1.5°C-2°C above pre-industrial levels as set out in the Paris Agreement unless all economies decarbonize more quickly.[10] International cooperation, for example on mitigation financing via the Just Energy Transition Partnerships, are necessary to address historic disparities in emissions and, ultimately, to enable a just and effective global climate transition, while efforts such as the Loss and Damage Fund are crucial to helping low-income countries offset the damage from natural disasters caused by climate change. But unless mitigation action – driven largely by national and subnational policy and legislation – is accelerated, the promise of net zero by 2050 fades and the cost of inaction exponentially increases.

The aim of this paper is to illustrate how policy-makers can embed economic equity into climate-mitigation policies and unlock widespread support for accelerated climate action. It begins by articulating a Framework for Economic Equity, which aims to conceptualize where mitigation action might generate risks to economic equity and, consequently, create or exacerbate distributional inequality. The paper then proposes a way forward: embedding economic equity into mitigation policies by adopting a set of sector-agnostic policy guidelines (Section 3). Section 4 follows and presents illustrative examples, articulating how the proposed guidelines can minimize potential economic-equity risks that mitigation action may otherwise surface.

# 2 Mapping economic equity risks across mitigation actions

The green transition encompasses a wide range of changes: transitioning away from fossil fuels towards low-carbon sources of energy; greening transport, mobility and heavy industry; embedding sustainability in infrastructure and the built environment; greening agriculture; and scaling-up models of circularity. Mitigation action in each of these sectors will have wide-ranging impacts on fairness for workers, consumers and small businesses.

The World Economic Forum's Economic Equity Framework[11] (Figure 5) helps conceptualize the distributional impacts of mitigation action. It consists of seven green-transition dimensions, which target high-emitting and major segments of the economy that require transformation to achieve carbon neutrality, and five economic-equity dimensions, which reflect key components of economic participation.

FIGURE 05 **Economic Equity Framework**

| | Economic Equity Dimensions | | | | |
|---|---|---|---|---|---|
| **Green Transition Dimensions** | **Employment and Job Transition** | **Affordability of goods and services** | **Accessibility of goods and services** | **Access to financing and investments** | **Access to capacity** |
| Transitioning away from fossil fuels | Ability to navigate job loss with adequate social protection, support for reskilling, and to have access to good work in new and existing value chains | Ability to purchase relevant products and services (e.g., impact of short-term price hikes) as well as green alternatives | Availability and ability to use relevant products and services as well as green alternatives | Ability to access finance and investments to transition into and out of industries/sectors | Ability to access knowledge, technology and other resources to create and use relevant products and services |
| Scaling up low-carbon energy sources | | | | | |
| Greening transportation and mobility | | | | | |
| Greening agriculture and food production | | | | | |
| Greening heavy industry | | | | | |
| Greening infrastructure and built environment | | | | | |
| Moving to a circular economy | | | | | |

Source

World Economic Forum, *Accelerating an Equitable Transition: A Framework for Economic Equity*, 2024.

Achieving net-zero goals requires a comprehensive transformation across green-transition dimensions and corresponding sectors. In this effort, countries adopt various policies to support mitigation action (Figure 6). Carbon pricing – including carbon taxes (a direct tax on carbon emissions) and cap-and-trade systems (a market-based approach where a cap is set on the total amount of emissions allowed, and companies can buy and sell permits to stay under the cap) – are widely used to make carbon emissions more costly and to incentivize reductions.

Setting energy-efficiency standards for buildings, vehicles and industrial processes, and leveraging regulations and bans, such as phasing out coal and fossil-fuel technologies and setting deadlines for the sale of new internal combustion engine vehicles, play a significant role as well. Financial incentives – for example, tax credits and subsidies – are used to stimulate renewable energy projects like wind and solar power, while investments in public transportation infrastructure aim to reduce reliance on personal vehicles, thereby lowering emissions and supporting the greening of transport and mobility. In the agricultural sector, policies and incentives are used to optimize fertilizer use, improve manure management, and enable sustainable agricultural intensification. To support circularity, extended producer responsibility (EPR) schemes, recycling requirements and bans on things like single-use plastics are often proposed. Most of these decarbonization policies – if not designed with the right equity principles – can exacerbate existing inequalities or unfairly distribute costs and benefits of the transition across various segments of the population.

FIGURE 06 **Illustrative summary of decarbonization instruments and distributional impacts per green-transition dimension**

| | | Relevant economic-equity area | | | | | Affected vulnerable group | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Green-transition dimension** | **Policy instrument** | Employment and jobs transition | Affordability of essential goods and services | Accessibility of essential goods and services | Access to financing | Access to capacity | Workers | Low-income | Remote communities | SME's |
| Transitioning away from fossil fuels | Phase out coal-fired power plants | ■ | ■ | | | | ■ | ■ | ■ | |
| | Carbon pricing | ■ | ■ | | | | | ■ | | ■ |
| | Phase out fossil-fuel subsidies | ■ | ■ | | | | | ■ | | ■ |
| Scaling up low carbon energy sources | Incentives for residential solar systems | | ■ | ■ | | | | ■ | | |
| | Renewable portfolio standards | | ■ | | | ■ | | ■ | | ■ |
| | Tax credits for clean-energy innovation | | | | ■ | ■ | | | | ■ |
| | Government grants for clean-energy innovation | | | | ■ | ■ | | | | ■ |
| Greening transportation and mobility | Bans on internal combustion engine vehicles | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ |
| | Vehicle fuel-efficiency standards | | ■ | | | | | ■ | | |
| | Incentives for adoption of electric / hybrid vehicles | | ■ | ■ | | | | ■ | ■ | |
| | Government investment in EV charging infrastructure | | | ■ | | | | ■ | ■ | |
| | Expand coverage of public transportation | | | ■ | | | | | ■ | |
| Greening heavy industry | Government incentives for energy efficiency and electrification | | | | ■ | ■ | | | | ■ |
| | Industrial GHG emissions standards and regulations | ■ | | | ■ | ■ | ■ | | | ■ |
| | Green labelling and public procurement | | | | | | | | | |
| Greening infrastructure and built environment | Green building codes for new housing | | ■ | ■ | | | | ■ | ■ | |
| | Public incentives for energy efficiency retrofits in existing housing | | ■ | | | | | ■ | | |
| | Energy-efficiency standards for home appliances | | ■ | ■ | | | | ■ | ■ | |
| | Building electrification and smart energy management | | ■ | | | | | ■ | | |
| | Green urban spaces | | | ■ | | | | ■ | ■ | |
| | Consumer awareness programmes for smart energy management | | | | | ■ | | | ■ | |
| Greening agriculture and food production | Public investment in R&D on crops, machines and management | | | | | ■ | | | | ■ |
| | Policies to reduce fertilizer use | | ■ | | ■ | ■ | | ■ | | ■ |
| | Land-use management - biofuels and forestry | | | | | | | | | |
| | Consumer awareness programmes for low-emission intensity diet | | ■ | ■ | | | | ■ | ■ | |
| Moving to circular economy | Grants for R&D on circular products and materials | | | | | ■ | | | | ■ |
| | Bans on single use plastic | ■ | ■ | | | | ■ | ■ | | |
| | Consumer awareness programmes for recycle and reuse | | | ■ | | | | | ■ | |

Source

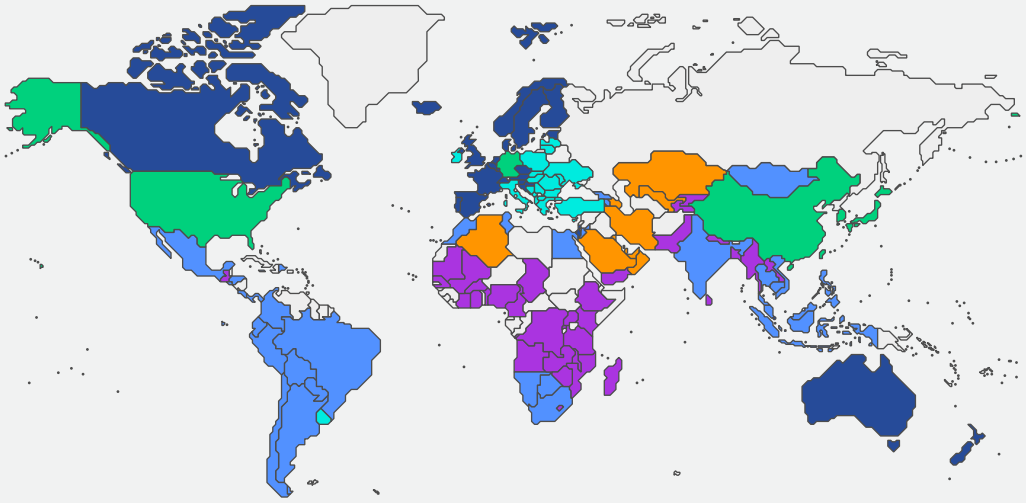
World Economic Forum.

Notes

EV = electric vehicle, GHG = greenhouse gas, R&D = research and development, SME = small and medium-sized enterprise.

The choice and design of decarbonization policies – as well as the equity risks associated with them – will differ based on the specific mitigation challenges and socioeconomic context of a country. Six country archetypes have been identified that cluster countries with similarities across 29 indicators (Figure 7). These archetypes take into account structural characteristics such as the size and nature of their mitigation challenges, the availability of human capital and labour-protection mechanisms, inequality levels and cost-of-living pressures, place-based inclusion and accessibility of goods and services, technological know-how, and public and private financing capacities.[12]

FIGURE 07 **Equitable Transition Country Archetypes**



- **Inclusive Green Adopters:** High-income, service-driven economies making significant strides in reducing emission intensity through available green technologies while ensuring economic equity
- **Growth Economies:** Rapidly industrializing emerging economies with growing energy demand, balancing climate mitigation with socio-economic development
- **Emerging Green Adopters:** Upper-middle and high-income economies with significant industrial employment transitioning to innovation-driven economic models
- **Frontier Economies:** Low-income countries with large youth populations and low emissions per capita, in need of investing in the foundations for sustainable long-term growth
- **Fossil Fuel Exporters:** Economies heavily reliant on fossil fuel rents and subsidized energy consumption, resulting in high emission intensity
- **Green Developers:** Highly-industrialized and technologically-advanced countries leading in green technologies and business models

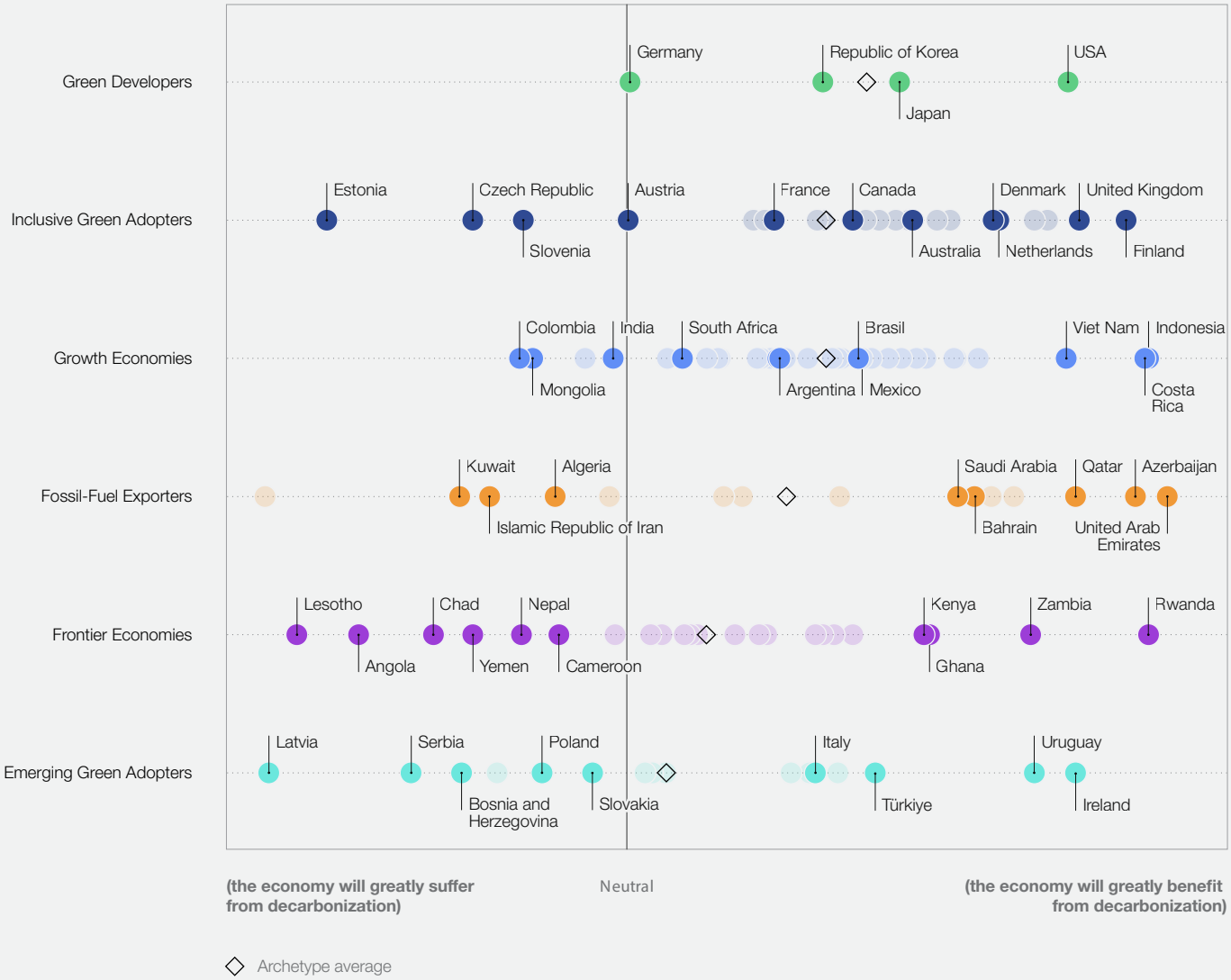
Source

World Economic Forum, *Accelerating an Equitable Transition: A Data-Driven Approach*, 2024

Data from the World Economic Forum Executive Opinion Survey (EOS) helps map, across these archetypes, economic-equity risks potentially associated with climate action across the seven high-emitting and major segments of the economy identified by the Economic Equity Framework.[13]

EOS respondents were first asked to assess, on a scale from 1 to 7, whether they expected the economy of their country to suffer or benefit from decarbonization and green-transition actions. Figure 8 presents results for 116 countries across the six archetypes.[14]

FIGURE 08 **Perceptions of the business community around the economic impact of climate mitigation in their country**




Source

World Economic Forum Executive Opinion Survey, 2024

Note

Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

Across all archetypes, in a majority of countries the business community tends to lean towards cautious optimism about the potential economic impact of decarbonization and climate-mitigation actions. There are however large differences both within and across archetypes.

Green Developers are the only cluster where the business community leans towards a neutral-to-positive attitude in all countries, with a large gap between the United States (most positive business sentiment) and Germany (rather neutral). Inclusive Green Adopters represent the second-most optimistic business communities, with executives in the United Kingdom, Singapore and a number of Northern European countries expecting largely positive economic impacts, and their peers in Austria and Eastern European countries at the other end of the spectrum. Despite large mitigation challenges, private-sector sentiment around the economic impact of the green transition is positive in the large majority of Growth Economies, with Indonesia and Costa Rica the most optimistic business communities. The sentiments of business communities in Fossil-Fuel Exporters are polarized between countries that have already started their diversification journey or could benefit from the exports of critical minerals and natural gas (United Arab Emirates, Azerbaijan, Qatar, Oman, Uzbekistan, Bahrain and Saudi Arabia), and others where executives are more pessimistic (Kuwait, Islamic Republic of Iran, Algeria). Frontier Economies

and Emerging Green Adopters tend to be less optimistic than the rest of world. Among countries in the first group, Rwanda, Zambia, Ghana and Kenya are positive exceptions. Business sentiment among Emerging Green Adopters seem to reflect a combination of large mitigation challenges, ambitious climate agendas and lower economic dynamism. Ireland and Uruguay represent the most optimistic business communities in this group, while their peers in most Central and Eastern European countries (including Latvia, Serbia, Bosnia and Herzegovina, Republic of North Macedonia, Poland, and Slovakia) expect a negative impact of climate action on their economies.

Figure 9 delves into greater detail and maps the potential distributional equity risks associated with the transformation of various economic sectors across the six archetypes.

Globally, almost 80% of executives expect unequal access to capital and financing to characterize the transition of at least one major economic sector, making it the economic-equity risk of highest concern among the business community. About one-half of them expect an increase in cost of living stemming from at least one green transformation area, and one in three expect some form of job displacement across the economy.

Unequal access to capital and financing is of particular concern among executives in all country archetypes – particularly in Growth Economies with high emissions intensities and energy demand growth potential, and Green Developers with the highest competitive advantages in technology and existing industrial installed base. Companies in the Green Developer archetype countries also report the highest levels of risk from unequal access to green technology and know-how. This implies that even in countries where technological capabilities exist, these tend to be concentrated in the hands of just a few firms. Executives from Fossil-Fuel Exporter, Growth Economy and Frontier Economy country archetypes also highlight concerns around uneven access to technology in multiple sectors. Decreased access to goods and services is top-of-mind for businesses among Green Developers, Inclusive Green Adopters and Emerging Green Adopters, while increased cost of living is most often cited across all sectors in Fossil-Fuel Exporters, Frontier Economies and Green Developers, with the exception of greening of agriculture and food production where affordability concerns are high among both Inclusive Green Adopters and Emerging Green Adopters. Unequal access to critical raw materials is of relatively higher concern among businesses in Fossil-Fuel Exporter, Frontier Economy and – to a lesser extent – Green Developer countries, while worker displacement is most often cited in Inclusive Green Adopter, Fossil-Fuel Exporter and Frontier Economy countries.

Understanding where risks to economic equity may be concentrated can support policy-makers in identifying the right incentives and support structures for the shift to net zero. Furthermore, recognizing that there are common strategies – applicable across sectors – to account for economic-equity impacts within policy can equip policy-makers to pre-empt the potential adverse impacts of mitigation policy. The next section proposes five guidelines to this effect. The guidelines were developed based on expert consultation, literature reviews focused on ex-post analysis of decarbonization policies and their progressive or regressive outcomes, and an evaluation of case studies for an assessment of common enabling factors for climate-policy implementation.

FIGURE 09 **Mapping equity risks across climate mitigation actions**

In your country, how will the decarbonization and green transition actions impact the economy?
Choose up to two options for each green transition area

| | a | b | c | d | e | f | g | |
|---|---|---|---|---|---|---|---|---|
| **Global Average** | 41 | 42 | 42 | 37 | 42 | 45 | 37 | Unequal access to capital |
| Inclusive Green Adopters | 38 | 41 | 38 | 36 | 41 | 42 | 35 | |
| Emerging Green Adopters | 40 | 44 | 46 | 39 | 43 | 45 | 37 | |
| Fossil-Fuel Exporters* | 34 | 38 | 38 | 33 | 34 | 44 | 34 | |
| Growth Economies | 44 | 46 | 44 | 39 | 45 | 48 | 40 | |
| Frontier Economies | 40 | 39 | 42 | 38 | 43 | 44 | 36 | |
| Green Developers | 41 | 41 | 41 | 35 | 48 | 46 | 38 | |
| **Global Average** | 32 | 36 | 30 | 30 | 36 | 34 | 38 | Unequal access to technology and know-how |
| Inclusive Green Adopters | 30 | 35 | 27 | 26 | 34 | 31 | 39 | |
| Emerging Green Adopters | 29 | 32 | 25 | 25 | 32 | 30 | 33 | |
| Fossil-Fuel Exporters* | 35 | 37 | 35 | 30 | 41 | 33 | 36 | |
| Growth Economies | 34 | 36 | 31 | 33 | 37 | 37 | 40 | |
| Frontier Economies | 30 | 36 | 31 | 33 | 37 | 35 | 37 | |
| Green Developers | 34 | 43 | 35 | 35 | 38 | 41 | 42 | |
| **Global Average** | 27 | 25 | 29 | 29 | 20 | 24 | 24 | Decreased access to goods and services |
| Inclusive Green Adopters | 33 | 27 | 32 | 33 | 19 | 26 | 25 | |
| Emerging Green Adopters | 32 | 28 | 33 | 35 | 26 | 28 | 25 | |
| Fossil-Fuel Exporters* | 28 | 26 | 30 | 27 | 19 | 21 | 24 | |
| Growth Economies | 25 | 23 | 27 | 28 | 19 | 22 | 23 | |
| Frontier Economies | 22 | 24 | 27 | 26 | 20 | 21 | 24 | |
| Green Developers | 28 | 29 | 34 | 32 | 24 | 28 | 33 | |
| **Global Average** | 22 | 18 | 20 | 23 | 16 | 17 | 16 | Increased cost of living |
| Inclusive Green Adopters | 21 | 16 | 22 | 25 | 14 | 18 | 15 | |
| Emerging Green Adopters | 20 | 16 | 18 | 24 | 15 | 16 | 16 | |
| Fossil-Fuel Exporters* | 27 | 26 | 22 | 24 | 19 | 20 | 20 | |
| Growth Economies | 19 | 14 | 17 | 17 | 13 | 12 | 11 | |
| Frontier Economies | 26 | 21 | 22 | 23 | 17 | 19 | 19 | |
| Green Developers | 30 | 24 | 28 | 37 | 24 | 25 | 22 | |
| **Global Average** | 14 | 15 | 13 | 15 | 18 | 15 | 16 | Unequal access to critical raw materials |
| Inclusive Green Adopters | 10 | 12 | 11 | 10 | 15 | 11 | 11 | |
| Emerging Green Adopters | 10 | 12 | 9 | 11 | 14 | 10 | 15 | |
| Fossil-Fuel Exporters* | 18 | 15 | 16 | 22 | 25 | 17 | 19 | |
| Growth Economies | 12 | 15 | 11 | 15 | 16 | 14 | 13 | |
| Frontier Economies | 17 | 21 | 17 | 20 | 22 | 22 | 22 | |
| Green Developers | 17 | 18 | 12 | 15 | 17 | 11 | 13 | |
| **Global Average** | 14 | 7 | 7 | 9 | 11 | 7 | 10 | Job displacement |
| Inclusive Green Adopters | 15 | 6 | 7 | 8 | 15 | 6 | 9 | |
| Emerging Green Adopters | 11 | 4 | 5 | 4 | 8 | 5 | 7 | |
| Fossil-Fuel Exporters* | 15 | 9 | 8 | 14 | 14 | 14 | 16 | |
| Growth Economies | 10 | 5 | 7 | 8 | 9 | 5 | 9 | |
| Frontier Economies | 20 | 10 | 12 | 12 | 13 | 10 | 12 | |
| Green Developers | 13 | 5 | 7 | 6 | 10 | 7 | 9 | |


a. Transitioning away from fossil fuels
b. Scaling up low-carbon energy sources
c. Greening transportation and mobility
d. Greening agriculture and food production
e. Greening heavy industry
f. Greening infrastructure and built environment
g. Moving to a circular economy

Source

World Economic Forum, Executive Opinion Survey 2024

Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

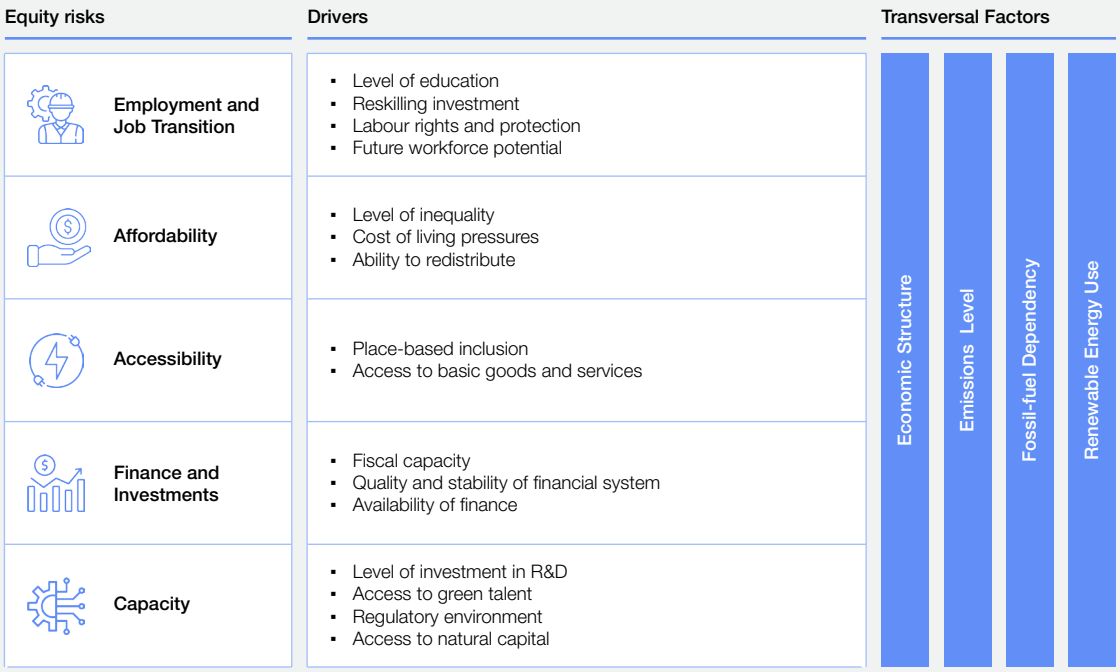
# 3 Policy guidelines for equitable climate action

## 3.1 Context-specificity

### Why it matters

The effectiveness of a policy instrument is largely reliant on the alignment between contextual factors and the choice and design of the policy. Context – a combination of external influences from institutional, socioeconomic, geographical and cultural factors – can facilitate or undermine the effectiveness of climate-mitigation policies. Cost-effectiveness and technological feasibility have been primary criteria in development of the policy responses for climate mitigation. As climate action expands in scope and depth to meet the goals of the Paris Agreement, consideration of the contextual environment in the policy design phase is essential to maximize co-benefits and to minimize adverse distributional effects. By revealing the scale and nature of distributional implications of mitigation policies, contextual awareness can also contribute to more informed allocation of resources on climate-change adaptation measures.

FIGURE 10 **Contextual factors impacting exposure to equity challenges and opportunities from the green transition.**




Source

World Economic Forum, *Accelerating an Equitable Transition: A Data-Driven Framework*, 2024.

## What it means

The context underpinning a policy measure's design reflects a wide range of place-based characteristics. At a macro level, the country archetypes discussed in Section 2 provide a baseline for countries with similar structural factors that might experience similar equity challenges and opportunities through their net-zero transformation. Factors such as stage of economic development, sectoral composition of the economy, fiscal strength, level of technology adoption and productivity, and developmental priorities determine the scope and choice of decarbonization pathways (Figure 10). Additionally, contextual factors for policy instruments pursuant to decarbonization pathways at meso and micro geographical scales are driven by local characteristics. Pre-existing vulnerabilities, including demographics, structure of the local labour market, availability of essential goods and services, social norms and values, and health of critical natural resource systems such as air, water and biodiversity shape the context in which a mitigation policy is expected to operate. Governance structures reflecting degree of actors engaged in decision-making also constitute relevant contextual environment for a mitigation policy.

## What can be done

The following measures can improve context specificity of policy instruments for climate mitigation:

1. **Improve understanding of climate change mitigation - inequality nexus:** Climate mitigation implies a deep rewiring of our societal, economic and technological systems. To ensure and maximize their effectiveness, climate policies should aim to accelerate emission reduction and improve economic equity. They can be improved by acquiring a better understanding of causal pathways linking them to socioeconomic impacts. This necessitates a consistent and comprehensive taxonomy of distributional impacts, transparency on their respective proportions, and identification of vulnerable stakeholder groups.

2. **Develop place-based inclusion strategies:** The extent of distributional impacts from climate change mitigation and the composition of vulnerable groups are closely tied to local conditions. Tailored inclusion strategies that consider these local contexts, informed by an understanding of the causal pathways of negative distributional effects and participatory processes that elevate stakeholder concerns and priorities, are crucial for ensuring the contextual relevance of policy instruments.

3. **Conduct ex-ante social impact assessment:** Improved awareness of potential distributional impacts can aid in creating consistent guidelines for social-impact assessments of climate policies. Conducting ex-ante social impact assessments can play a crucial role in proactively addressing equity risks by informing place-based inclusion strategies in policy design.

4. **Maintain openness to adopting second-best approaches:** Insights from social-impact assessments can help identify target sectors and policy instruments with fewer regressive impacts, allowing for prioritization that fosters public acceptance and builds support for change. Considering distributional effects alongside effectiveness and efficiency can enhance decision-making in the design of climate policies.

# 3.2 Targeted support

## Why it matters

Climate-mitigation policies can lead to temporary shocks in the form of labour-market shocks, challenge to affordability and availability of essential goods and services, as well as capability gaps in participating in the green transition. These distributional effects can worsen existing inequalities among groups, disproportionately impacting stakeholders based on skills, age, gender, income and location. Targeted support programmes are crucial for minimizing adverse effects and ensuring equitable access to opportunities while also making sure policy is designed according to the local context. Providing fair, transparent and adequate support to vulnerable groups can foster public backing for climate policies and enhance policy stability. Effective targeting can yield optimal outcomes within constrained public resources and help prevent unintentional setbacks in other areas of social development.

## What it means

Targeted support to mitigate adverse distributional impacts of climate-mitigation policies depend on the nature of the policy instrument, as well as contextual factors and administrative capabilities. For economic measures like market-based

emissions mitigation instruments and fossil-fuel subsidy reforms that cause distributional effects through price shocks, support can be provided via cash transfers or adjustments to the tax code. In the case of regulatory approaches, such as energy-efficiency standards for appliances or electric vehicle (EV) mandates, distributional implications can be addressed by offering exemptions for households and businesses that cannot afford low-emission alternatives. Government-backed programmes aimed at providing goods and services – such as expanding public transport, district heating and cooling, and training and skill development – can achieve equitable outcomes through proactive outreach and engagement with vulnerable stakeholder groups.

### What can be done

1. **Routinely engage with stakeholders:** An inclusive approach to stakeholder engagement and transparency, along with incorporating feedback from consultations, is vital for choosing targeting mechanisms and establishing appropriate support levels in policy implementation. Although designing targeting programmes that perfectly offset regressive impacts for specific stakeholder groups can be challenging, consistent and proactive engagement mechanisms can facilitate ongoing programme adjustments, especially as the nature of these regressive impacts evolves over time.
2. **Pledge commitments and funding:** Long-term, adequate and stable funding for targeted support is essential to ensuring continued efforts to address distributional implications. Earmarking a proportion of a programmes' budget for targeted engagement and support to vulnerable stakeholder groups can be instrumental in mainstreaming equity considerations in climate-policy design and implementation.
3. **Expand administrative capacity:** Continuous and adaptive targeting programmes for climate policies with long-term time horizons can impose a substantial administrative burden. An institutional approach to implementation of targeted engagement and support, building robust and durable administrative capabilities, and leveraging advanced information technologies and artificial intelligence (AI) enabled approaches can improve cost-efficiency and performance of the programmes.
4. **Consider perceived and actual fairness:** The efficacy of targeting programmes depends on both their perceived and actual fairness. Simpler programmes are often easier to communicate but may lack multiple targeting mechanisms needed to minimize exclusion of eligible beneficiaries or inclusion of non-eligible ones, hence increasing coverage and reducing leakages of targeted engagement and support.

## 3.3 Policy sequencing

### Why it matters

Achieving the goals of the Paris Agreement calls for stringent policy measures that can deliver transformative emissions mitigation in a timely manner. Implementation of ambitious policy instruments presents a trade-off between cost effectiveness, emissions-mitigation potential and political feasibility, indicating the importance of sequencing climate policies so that they iteratively address specific barriers to higher stringency. Research suggests that countries that have adopted stringent policy measures such as carbon pricing tend to have larger policy portfolios that have temporally evolved towards higher stringency (Figure 11). Sequencing of policy measures so that each pathway becomes conducive to achieving the objective of subsequent measures helps stakeholders to adapt and allows for course correction of distributional impacts and building public acceptance.

### What it means

Policy sequencing entails strategic ordering of policies that increase in scope and stringency over time, allowing for choice and implementation of policy measures that consider the contextual environment, vulnerability profiles, timing of targeted support, and administrative capacity for monitoring and evaluation. In addition to the temporal dimension, sequencing of decarbonization policies should also consider the consistency and coherence within a broader policy mix as well as the political economy considerations specific to the geographical scope.[15] The effectiveness and feasibility of policy measures that can potentially increase exposure to distributional shocks, such as carbon pricing, energy subsidy reforms, or bans on emissions-intensive modes of transport, can benefit from sequencing that creates support over time. Sequencing is also critical in timing of targeted support measures, which should be implemented in parallel to the policy instruments.

FIGURE 11 | **Observed policy sequencing in countries with carbon pricing, as of 2020**

| Regulatory Instruments → | Grants, subsidies, financial incentives → | Policy support and targets → | Information and Education → | Voluntary Approaches → | Research and development → | Procurement and Investment → | Carbon Pricing |
|---|---|---|---|---|---|---|---|
| E.g.: Product, technology, industry, emissions standards | E.g.: Market based instruments, feed in tariffs, loans, subsidy reforms | E.g.: Binding / non-binding emissions, efficiency, or renewable energy targets, climate strategy | E.g.: Education, green certificates and labels, skill development | E.g.: Private sector net zero plans, public voluntary programs | E.g.: Technology development, diffusion, demonstration support | E.g.: Infrastructure investment, public procurement | E.g: Emissions trading, carbon tax |

Source

Linsenmeier, Manuel, Adil Mohommad and Gregor Schwerhoff, *Policy Sequencing Towards Carbon Pricing: Empirical Evidence From G20 Economies and Other Major Emitters*, International Monetary Fund, 2022.

## What can be done

1. **Frontload second-best measures:** Despite increasing levels of political commitment and investments in the green transition, pledges and current policies by countries fall short of required levels to deliver net zero by 2050. While this calls for timely implementation of stringent measures, sequencing second-best policy instruments in advance of broader and more stringent measures can gradually shift norms, allow for learning effects that reinforce pathways from previous policies, and create lock-ins in favour of innovative low-carbon technologies that produce lasting behavioural change.[16]

2. **Synchronize development of enabling factors:** Climate-mitigation policies that require changes in consumption behaviour and expectations of daily goods and services can be sequenced to lower barriers to adoption, and hence reduce gaps between stakeholder groups with varying means and access to enabling factors. For instance, developing charging infrastructure in line with EV mandates or building manufacturing capacity and supply chains for appliances in parallel with introduction of energy efficiency standards can create equitable access to low-carbon alternatives and strengthen public support.

3. **Communicate policy-induced benefits:** Deeper and sustained levels of public support for stringent policy depends on the perceived effectiveness of prior policy measures in rewarding sustainability-conscious behaviour. The introduction of progressively stringent policy measures can be sequenced along with communication programmes that highlight that opportunities from prior policy measures can help in overcoming cognitive barriers to adoption.

# 3.4 Stakeholder engagement and social dialogue

## Why it matters

As our understanding of the direct and indirect social impacts evolves, it's essential to thoroughly map affected stakeholder groups and create mechanisms for meaningful engagement to ensure an equitable green transition. Evidence from successful practices indicates that the social impacts of climate policies are more likely to be recognized and addressed when rigorous and comprehensive stakeholder consultations take place.[17] Recently, permitting clean-energy infrastructure projects, reducing emissions-intensive industrial operations, and enacting fossil-fuel subsidy reforms have encountered resistance from local communities, consumers and workers. Engaging stakeholders is crucial to shape policies that address both planet and people impacts and therefore build trust in the green transition and in the socioeconomic opportunities it can create.

## What it means

Effective stakeholder engagement should be conducted throughout the policy cycle, from design

and implementation to monitoring and evaluation phases. The matrix of relevant stakeholder groups can depend on the type of policy instrument, geographic scope of implementation and governance structures, and can include local and regional authorities, social partners, civil society organizations and the private sector. Existing formal mechanisms, such as social dialogue involving workers, employers and governments, are yet to be consistently applied for climate policies. Less than one-third of countries have implemented social dialogues for climate policies, signalling scope for improvement.[18]

### What can be done

1. **Prioritize inclusive engagement:** The direct and indirect impacts of the green transition affect a wide range of sectors, and hence potentially lead to distributional effects across vulnerable groups – including workers, low-income households, remote and indigenous communities, and small and medium enterprises (SMEs). An inclusive approach to stakeholder engagement, informed by social-impact assessment and vulnerability profiles specific to the local context, can support in surfacing adverse effects in a timely manner.
2. **Take an institutional approach:** Guidelines for stakeholder engagement in climate policies can help establish a comprehensive institutional framework, address sectoral gaps and develop essential administrative and technical capabilities. This approach encourages sustained engagement over one-time consultations, ensuring consistent and effective participation. Additionally, aligning stakeholder development processes and priorities with broader climate action plans, such as Nationally Determined Contributions (NDCs), can establish a clear top-down agenda, enhancing the consistency and credibility of engagement mechanisms.
3. **Establish accountability for actions:** Building trust in climate action and the stakeholder engagement process requires establishing transparent accountability mechanisms to address the distributional impacts identified during consultations. This involves ensuring the timely and effective dissemination of information and actively including representatives from relevant stakeholder groups in the governance of climate action. Such participation can foster a sense of ownership and collaboration, enhancing overall trust in the process.

## 3.5 Public awareness and communication

### Why it matters

Climate change mitigation policies require shifts in economic, behavioural and livelihood patterns in the near term. Narratives on climate change and on the trajectory of the green transition influence the extent of support for climate policies. According to a cross-country survey by the OECD, perceptions of policy effectiveness and distributional impacts are strong predictors of support for climate policies. Communication on the design and consequences of climate policies rather than on climate impacts has a higher effect on policy support.[19] Thus, an institutional and strategic approach to communication can improve the effectiveness of stakeholder engagement and inform the design and implementation of climate policies.

### What it means

Communication about policy benefits and access to information plays a key role in an equitable transition. For consumers, awareness of government programmes and transparency about their emissions footprints can enable informed decision-making. Likewise, awareness of near-term benefits of climate policies such as pollution levels and environmental quality can help build community support for low-carbon infrastructure development. In addition to climate change relevance and technological effectiveness, communication programmes should also explain the distributional effects of climate policies and how they are being addressed through various mechanisms. To build support and generate consistent momentum for the transition, communication efforts also need to be aligned across multiple levels of governance – from national and regional to local levels.

### What can be done

1. **Tailor communication strategies to context:** Understanding of cultural context and social norms can be instrumental in developing inclusive and effective public-awareness and communication strategies. Additionally, communication efforts can be developed in accordance with local specificities such as language and outreach potential for different forms of media. This can help support the building of communication capabilities in local and regional authorities.

2. **Improve access to information:** The opportunities available through the green transition may not be equitably accessible across stakeholder groups due to pre-existing informational barriers or lack of access to digital tools and platforms. For example, digital adoption gaps between SMEs and large organizations have grown over the last decade, potentially limiting access to government programmes, technological innovations and best practices. Adopting channels of communication accessible to affected stakeholder groups – and that bridge literacy and digital divides – is critical to improve participation and support for climate policies. Moreover, education on climate change, and its mitigation and adaptation across age groups, levels and disciplines, is paramount to bridge informational barriers.

3. **Craft an opportunity-focused narrative:** Current narratives on climate change are shaped by the long-term time horizons of benefits of climate policies and impacts of extreme weather events, potentially affecting perceptions on near-term benefits of climate policies. Narratives structured around opportunities from the green transition that are more rooted in the lived experience of stakeholders, on the costs of inaction, and on measures undertaken to address distributional impacts can help address mis- and disinformation about the climate action landscape.

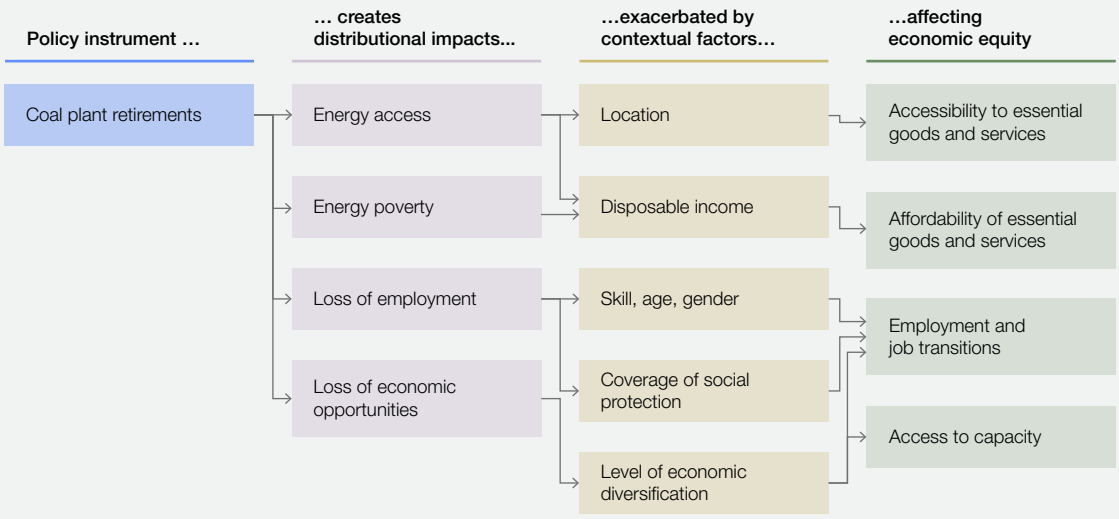
# 4 Illustrative cases of equitable climate policy design

## 4.1 Coal plant retirements

Power generation from coal accounts for one-third of global electricity generation. Given the emission intensiveness of coal combustion and its effects on air quality, phasing down power generation from coal is a primary objective for the net-zero transition. Coal phaseout targets feature in the NDCs of many countries, which has led to increasing number of closures of coal plants. However, global electricity generation from coal reached an all-time high in 2023, driven by rising demand for energy primarily in Frontier Economies and Growth Economies.

Beyond the need for a reliable and affordable energy supply to support ongoing economic growth, phasing out coal from power generation creates significant regressive impacts for various regions, communities and economic sectors (Figure 12). The transition can lead to job losses in coal mining and coal-fired power plants, particularly impacting older workers and those in low- to medium-skilled positions, especially in areas that heavily depend on these industries. While some regions may experience economic downturns, others could benefit from new investments in renewable energy and alternative employment opportunities. Additionally, this shift might affect energy prices; elevating electricity costs in the short term, potentially exacerbating energy poverty for low-income households. Variations in the pace of renewable energy deployment and the closure of coal plants can also create reliability issues in electricity supply, particularly for small businesses lacking alternative power sources or remote communities constrained by inadequate grid infrastructure.

FIGURE 12 **Distributional impacts of coal plant retirements causal chain**




Source
World Economic Forum.

Designing coal plant retirement programmes with attention to potential distributional impacts can help achieve equitable outcomes for vulnerable stakeholder groups. This approach involves conducting transparent and meaningful consultations with local communities and worker representatives regarding the timeline and pace of the transition. It's also essential to sequence policies while considering access to renewable energy infrastructure. Additionally, gaining a clear understanding of the types and extent of distributional implications is crucial for informing policy design and identifying effective targeted support measures.

### Spotlight: German Coal Commission

Coal has historically been a significant component of Germany's energy landscape, contributing 33% to the primary energy supply and directly employing over 30,000 workers in 2018.[20] To develop a strategy for phasing out coal from power generation in alignment with climate targets and equity considerations, the Commission for Growth, Structural Change, and Employment (Coal Commission) was established in 2018. From the outset, the commission brought together a diverse range of stakeholders, including power-plant operators, representatives from lignite mining regions, trade unions, citizen initiatives and environmental organizations to gain multistakeholder buy-in regarding its organizational structure and mandates, among other objectives.

Over six months of consultations, the commission crafted a timeline for retiring existing coal plants that aligned with the growth of renewable energy in the energy mix. Its recommendations emphasized the modernization of energy infrastructure and investment in transport and digital infrastructure in mining regions to **sequence** coal retirements with the emergence of new economic opportunities. To address potential local employment disruptions, the commission facilitated socially acceptable **collective bargaining agreements** among trade unions, plant operators and the government to protect workers' rights. It also proposed active labour-market policies focused on training and reskilling affected workers.

In addition to employment transitions, the commission assessed the impact of the coal phase-out on household electricity costs, recommending **targeted support** for affected consumers and suggesting market reforms to maintain supply security during the transition.

The Coal Commission's consultative, transparent and inclusive approach, along with its emphasis on the distributional impacts of coal phase-out, enabled a pragmatic compromise among various stakeholder groups, resulting in a consensus-backed pathway to eliminate coal by 2038.

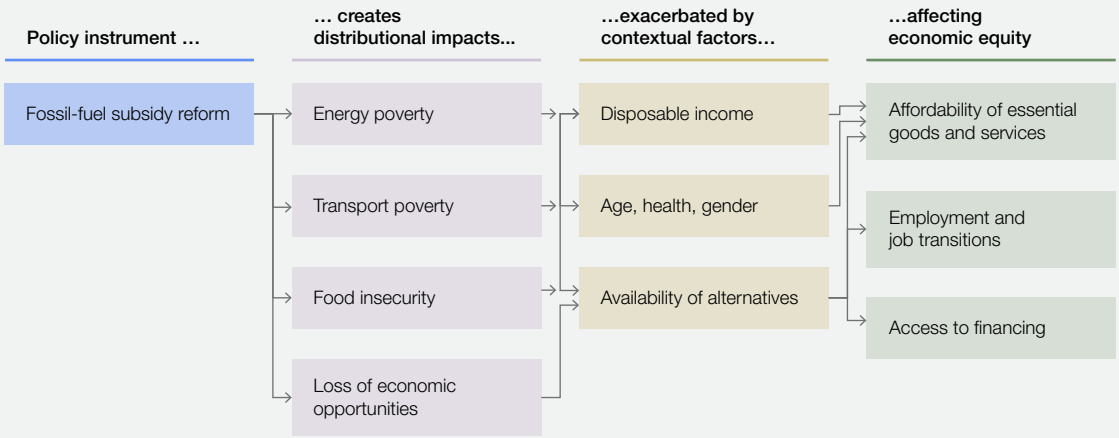
## 4.2 Phasing out fossil-fuel subsidies

In 2023, governments around the world spent $620 billion subsidizing the use of fossil fuels, primarily in emerging and developing economies. Fossil-fuel subsidies deprive governments of the resources they need to provide essential public services. Revenue gains vary widely across regions, largely reflecting the distribution of (explicit and implicit) subsidies. According to the IMF, revenues from full price reform in 121 EMDEs would amount to $3 trillion in 2030, which is broadly in line with their additional spending needs for the Sustainable Development Goals (SDGs).

Phasing out subsidies for fossil fuels can create a level playing field in energy markets, allowing renewable energy sources to compete with conventional fuels and unlocking resources to accelerate innovation and deployment of low-carbon solutions. It can also reduce inefficient consumption of energy, supporting emissions mitigation and energy security. Reducing fiscal expenditure on fossil-fuel subsidies can also free up government resources for reinvestment in other social programmes and infrastructure development.

The distributional impacts of fossil-fuel subsidy reforms are directly related to the cost of energy, including heating, electricity and transportation – on households and businesses (Figure 13). Between 2005-2018 there were fuel related protests in 41 countries, reflecting the complex political economy of fuel price reforms.[21] The adverse welfare effects of subsidy reforms fall disproportionately on low-income households, who spend higher share of their expenditure on fuel and energy, and on small businesses that might lack access to alternative sources of energy. Given the sensitivity of food prices to energy costs, volatilities in energy prices can also give rise to food insecurity. Indirect impacts of subsidy reforms can also lead to loss of employment in small businesses.

FIGURE 13 **Distributional impacts of fossil-fuel subsidy reforms causal chain**




Source
World Economic Forum.

For an equitable phase-out of fossil-fuel subsidies, it is essential to have a thorough understanding of the socioeconomic contexts of affected communities. This involves analysing the extent and rationale behind current subsidy levels as well as the potential distributional impacts of their withdrawal. Timing and sequencing are critical; a gradual approach allows households and businesses to adapt, while recognizing opportunities for more rapid policy changes when necessary.[22] Reform measures should include targeted support for the poorest households. Additionally, effective communication strategies and stakeholder engagement are crucial for garnering public support. Communication efforts should highlight the environmental benefits of the reforms and work collaboratively with experts and community leaders to build consensus around the implementation process.

## Spotlight: Indonesia's fossil-fuel subsidy reform, 2014-15

Indonesia has undertaken multiple measures to reform fossil-fuel subsidies over the past three decades. Between 2005-2014, subsidies on fossil fuels and electricity accounted for 17.5% of total government expenditures and were a major contributor to the fiscal deficit. After reform measures undertaken in 2014 amidst a low global fuel-price environment, outlays on subsidies fell from $20 billion to $4.5 billion.[23]

From 2015 to 2017, electricity subsidies were eliminated for several consumer groups, primarily for industrial users and wealthier households. Subsidies on gasoline were eliminated and a fixed subsidy level was set for diesel. Although Indonesia's subsidy reform remains a work in progress, influenced by global commodity price fluctuations, several lessons can be drawn from this experience. Compensating vulnerable sections of the population against potential price shocks was a key feature of the reforms. Subsidies for electricity and liquefied petroleum gas (LPG) were linked to Indonesia's Unified Database (UDB, now formally known as DTKS[24]), improving the **targeting of transfers**. The reduction in energy-subsidy expenditures allowed the government to reallocate funding to infrastructure and rural development projects and social welfare programmes.

In addition to strong political leadership and **strategic sequencing** of reforms to leverage global energy market developments, **effective communication efforts** played an instrumental role. A coherent and timely media campaign emphasized the rationale for the reform, the opportunity costs of subsidies to infrastructure development and social welfare expenditure, and that the reforms were about switching subsidies from products to vulnerable households.

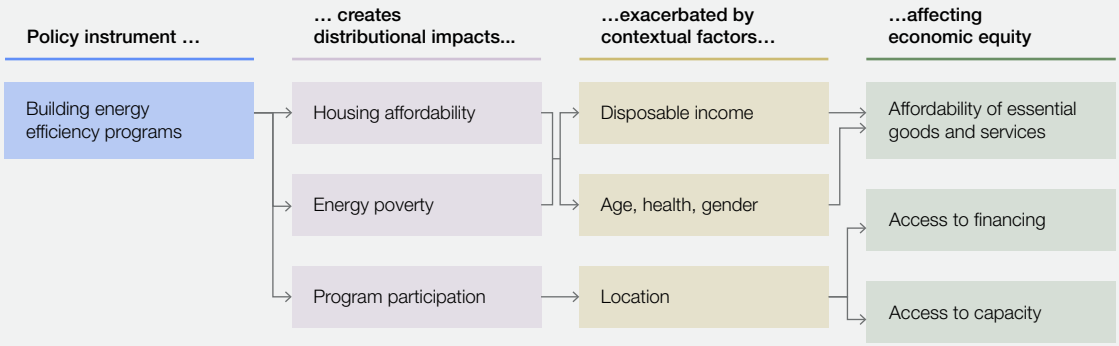
# 4.3 Green building programmes

At the 28th United Nations Climate Change Conference (COP28), held in the United Arab Emirates in 2023, nations worldwide reaffirmed their commitment to doubling the rate of annual energy efficiency improvements by 2030. Buildings account for one-third of global final energy demand, with residential structures consuming 70% of that total. Enhancing energy efficiency in buildings has long been recognized as a key opportunity for decarbonization.

Energy-efficiency mandates and standards for home appliances are essential demand-side strategies for reducing carbon emissions. However, underserved communities often lack the funds to invest in energy-efficient appliances without supportive financing. While these appliances can lead to energy savings that offset initial costs over time, their higher price points compared to non-labelled alternatives create obstacles for low-income consumers. Additionally, supply chains for high-performance and efficient products are generally more developed in urban and semi-urban areas, leaving rural regions underserved.

Incentives for building retrofits, insulation upgrades and heat pump installations can have regressive effects if not appropriately targeted – primarily benefiting higher-income households (Figure 14). Programmes that include homeownership as an eligibility criterion often fail to adequately support tenants, who may face higher energy bills due to inefficiency and the associated opportunity costs. Building retrofits also tend to appreciate rentals, exacerbating housing unaffordability.

FIGURE 14 **Distributional impacts of energy-efficiency building programmes causal chain**

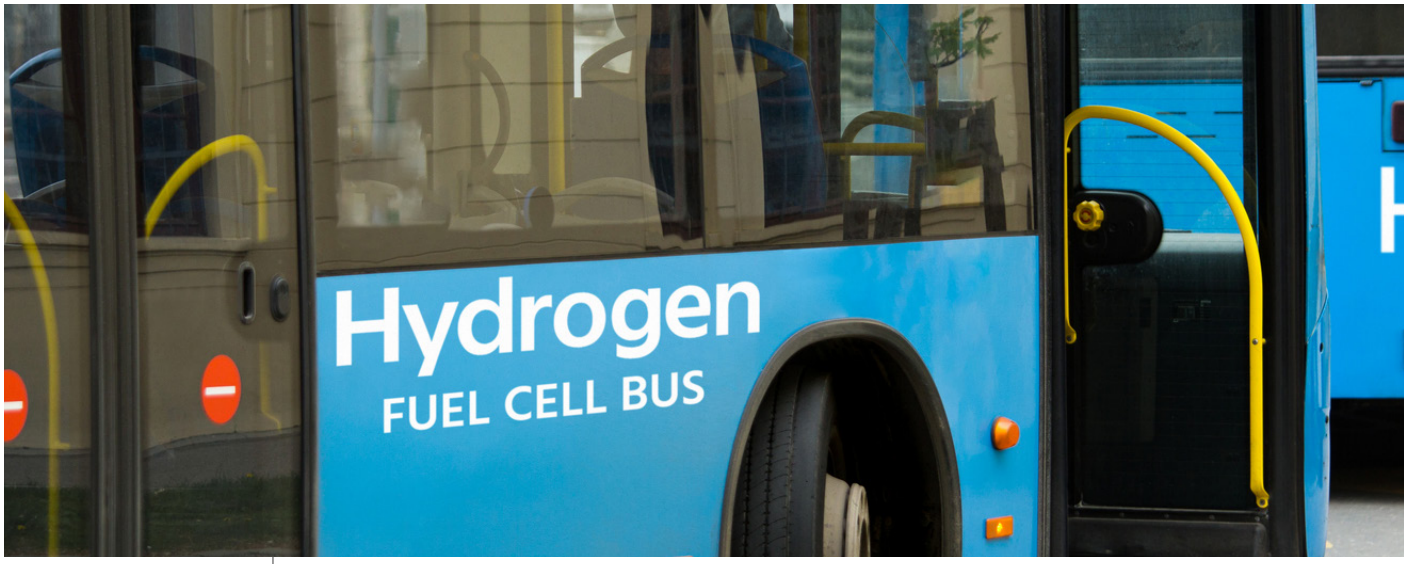



Source
World Economic Forum.

To promote equitable participation in energy-efficiency building programmes, tiered incentive structures are crucial to help low-income households overcome upfront costs and to create markets for affordable alternatives. Vulnerability to fuel poverty is influenced by local contexts, including income, expenditures, energy consumption levels, household size and age. Developing and implementing programmes that effectively address these vulnerabilities requires comprehensive demographic data on the target population.

## Spotlight: UK Energy Company Obligations

Energy consumption in buildings contributes to one-fifth of the United Kingdom's total GHG emissions. Domestic properties in the UK are up to three times less energy-efficient than those in other European nations, particularly in regions with above-average poverty levels. Approximately 13% of households in the UK struggle with fuel poverty and face financial barriers to implementing energy-saving measures, such as heat pumps and building renovations.




To combat fuel poverty and advance its net-zero goals, the UK government has established the Energy Company Obligation (ECO) programme. Launched in 2013, the programme is currently in its fourth phase, which mandates large and medium-sized energy suppliers to provide energy-saving measures to low-income households and communities. Funding for the programme comes from energy suppliers, with costs gradually recovered through energy bills.

Over the past decade, the programme has evolved to increase its ambition and scope, highlighting the importance of effective **policy sequencing**.

It specifically **targets households** with incomes below a certain threshold, those receiving income-based or disability benefits, and properties with low-energy performance ratings. Additionally, the programme sets eligibility criteria for participating companies to ensure that the obligations primarily fall on large and medium-sized energy suppliers, with gradual tightening of the criteria to include more companies. By sourcing initial funding from these companies, the programme reduces financial barriers. A tailored retrofit assessment for each household determines the specific retrofits needed, further alleviating information barriers.

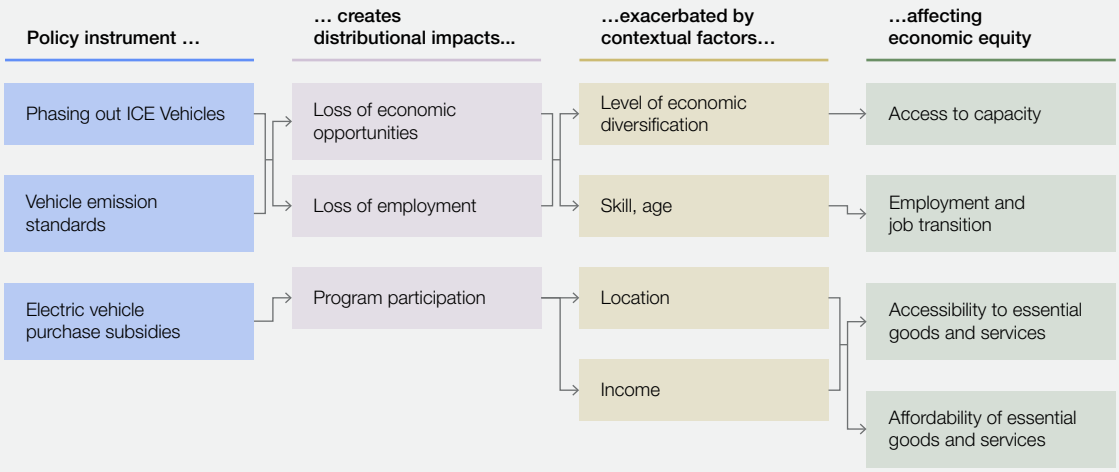
## 4.4 Policies for decarbonization of road transport

The transport sector is currently the fastest growing source of global GHG emissions and also the fastest growing segment of energy demand.[25] While large-scale, cost-effective solutions for decarbonizing freight transport, shipping and aviation are still lacking, low-emission alternatives for passenger road transport have been gaining increasing market share in major economies in recent years.

In addition to incentives designed to accelerate the adoption of low-emission vehicles, policies aimed at decarbonizing road transport often include economic tools such as fuel taxes and congestion charges, regulatory measures like emissions standards and bans on internal combustion engines, and support strategies such as investments in public transportation and targets for EV adoption. Decarbonizing road transport is a critical component of the broader transition to net-zero emissions. Beyond reducing emissions, shifting to cleaner mobility can also bring immediate benefits, including improved air quality, better health outcomes and new employment opportunities.

The distributional effects of these policies, however, vary based on the specific instruments used and local contextual factors (Figure 15). For example, fuel taxes and the expansion of public transport tend to have progressive impacts, as they disproportionately affect high-income consumers or those with long commutes. In contrast, vehicle emissions standards may have regressive effects, as low-income consumers may struggle to afford more energy-efficient models or may lack access to such options in lower-priced vehicle segments. Similarly, subsidies designed to promote the adoption of EVs may exclude low-income households that cannot afford the upfront costs of EVs. Furthermore, EV adoption is often constrained by the availability of charging infrastructure, which tends to be concentrated in urban areas or wealthier neighbourhoods. In addition to consumer impacts, mobility decarbonization can also significantly affect labour markets. EVs require fewer components than traditional internal combustion engine vehicles and are more amenable to automation in manufacturing, which could result in job losses across the automotive supply chain.

FIGURE 15 **Distributional impacts of decarbonization of passenger road transport causal chain**




Source
World Economic Forum.

To address the potential adverse distributional effects of decarbonization, policy-makers must carefully consider the demographic, economic and geographical contexts when designing measures. Targeting incentives to low-income and vulnerable populations can improve the effectiveness of public spending and boost participation in decarbonization programmes. Coordinating the ramp-up of EV adoption with the expansion of charging infrastructure and service networks can help overcome location-based barriers. Moreover, active labour-market policies, social-protection programmes and social dialogue mechanisms will be essential to support workers through this transition.

## Spotlight: California Advanced Clean Cars Programme II

The road transportation sector accounts for 39% of California's GHG emissions. Reliance on highways for commuting and lack of public transport connectivity pose a challenge in decarbonizing road transport in California. Over the past decade, a series of policy incentives and regulations have created a vibrant market for low-emission vehicles in California. Its Advanced Clean Cars II programme augments the state's growing zero-emissions vehicles market and stringent tailpipe emissions regulations to accelerate the mobility decarbonization to meet the target of 100% zero-emission new vehicles sales across passenger cars, trucks and SUVs.

The programme includes incentives for purchase of new and used low-emission and zero-emission vehicles (ZEV), funding for charging infrastructure development, and outreach campaigns to increase awareness and participation. Equitable access to opportunities to low-income consumers and communities are central components of the programme design. A dedicated ZEV Equity Taskforce brings together stakeholders from various sectors, including environmental justice advocates, auto manufacturers and retailers, and state government officials, to develop and implement strategies to expand access to ZEVs in underserved communities.

As part of the programme's environmental justice focus, original equipment manufacturers (OEMs) are awarded credits for ensuring that all communities can benefit from ZEVs. This includes credits earned by OEMs by participating in community mobility programmes that offer reduced price ZEVs, re-selling used ZEVs, and providing minimum warranty, serviceability, and durability requirements.[26] Additionally, the programme establishes an income threshold as a qualification criterion for incentives, based on household size. These measures can be effective in enabling affordability and accessibility of ZEVs to low-income households.

# Conclusion

Designing climate action pathways that also take into account the economic implications for workers, consumers and small businesses is crucial for a successful green transition – one that works for both people and planet.

The green transition presents not only technological and financial challenges but also a profound socioeconomic transformation. It touches the very foundations of economic value creation and deeply ingrained beliefs about living standards. Experience from past reforms shows that measures which are designed and implemented by centring a broad set of stakeholders have a more sustainable consensus and a higher chance of success. In today's environment of declining trust in governments and increasing polarization, reaching consensus on climate policies is more difficult – but it is still essential.

A transition that imposes disproportionate costs on some segments of society risks losing social acceptance and undermining trust in governments' ability to lead an equitable transition. Every stakeholder has a critical role to play. This paper outlines guidelines for integrating equity considerations across the entire policy cycle – from design and implementation to monitoring and evaluation.

The effectiveness and fairness of policy reforms are shaped by local conditions, including social, economic and demographic factors. A thorough understanding of these conditions allows for policies that not only maximize co-benefits, such as job creation and economic growth, but also minimize harm to disadvantaged communities. Targeted programmes – such as cash transfers, tax adjustments, subsidies for clean technologies and skill development initiatives – are essential for providing timely and adequate support to those disproportionately affected by decarbonization efforts.

Achieving net-zero emissions requires policies that are both ambitious and sequenced in a way that builds political support and minimizes disruption. Targeted support measures should be introduced alongside climate policies to mitigate adverse distributional effects. Proactive and inclusive consultations with vulnerable stakeholder groups throughout the policy cycle will help identify emerging risks and evaluate the effectiveness of mitigation measures. Coordination with other policy areas, such as labour and social welfare, is also necessary to ensure the design and implementation of equitable climate policies.

The policy guidelines presented in this document offer a framework for the design and implementation of climate policies that support an equitable transition. We hope that they will help policy-makers in the design of their next wave of climate-mitigation policies, as countries continue to update their NDCs ahead of COP30 in 2025. They will also inform country-level action driven by the the World Economic Forum's **Equitable Transition Initiative** through a series of Country Accelerator programmes focused specifically on shaping an equitable transition.

# Appendix

TABLE 1 **Share (%) of executives that have identified unequal access to financing among the top 2 most severe economic equity risks for each green transition area**

In your country, how will the decarbonization and green transition actions impact the economy?
Most companies will not have capital or financing for green investments

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Inclusive Green Adopters** | 38.4 | 41.2 | 38.3 | 35.6 | 41.3 | 42.4 | 35.0 |
| Australia | 25.9 | 31.0 | 23.5 | 25.6 | 36.6 | 38.3 | 35.8 |
| Austria | 42.6 | 61.0 | 31.0 | 33.3 | 49.6 | 41.4 | 30.8 |
| Belgium | 36.3 | 25.0 | 32.5 | 27.3 | 30.8 | 28.4 | 28.0 |
| Canada | 33.0 | 43.0 | 34.7 | 34.3 | 39.8 | 29.9 | 28.3 |
| Croatia | 54.5 | 54.9 | 42.9 | 43.8 | 43.7 | 52.2 | 39.4 |
| Czechia | 36.5 | 45.5 | 46.5 | 41.7 | 35.1 | 43.3 | 36.8 |
| Denmark | 37.9 | 35.2 | 29.5 | 34.0 | 40.4 | 34.5 | 31.8 |
| Estonia | 46.5 | 51.5 | 47.7 | 49.3 | 48.5 | 63.8 | 37.5 |
| Finland | 49.0 | 47.8 | 37.0 | 38.1 | 44.4 | 52.3 | 50.0 |
| France | 25.8 | 22.4 | 37.3 | 28.4 | 30.3 | 35.8 | 33.8 |
| Iceland | 35.7 | 36.9 | 40.6 | 33.3 | 41.9 | 37.1 | 35.6 |
| Israel | 54.5 | 27.8 | 42.1 | 47.1 | 62.5 | 62.5 | 43.8 |
| Luxembourg | 28.2 | 56.8 | 43.3 | 31.4 | 48.7 | 44.4 | 41.2 |
| Netherlands | 44.6 | 40.5 | 60.3 | 42.0 | 62.0 | 56.6 | 41.6 |
| New Zealand | 29.2 | 32.8 | 39.7 | 30.2 | 21.9 | 35.9 | 29.3 |
| Norway | 37.5 | 38.7 | 36.7 | 39.3 | 28.6 | 28.6 | 28.1 |
| Portugal | 52.1 | 57.5 | 52.3 | 47.2 | 60.2 | 52.4 | 46.3 |
| Singapore | 45.1 | 45.0 | 43.7 | 35.3 | 47.6 | 41.4 | 36.7 |
| Slovenia | 35.1 | 47.1 | 41.2 | 26.9 | 36.8 | 49.2 | 31.8 |
| Spain | 32.8 | 46.0 | 32.8 | 37.5 | 44.4 | 47.5 | 33.3 |
| Sweden | 34.9 | 25.6 | 27.7 | 32.5 | 27.7 | 28.4 | 31.6 |
| Switzerland | 28.6 | 34.4 | 25.8 | 28.8 | 28.6 | 39.0 | 23.3 |
| United Kingdom | 37.1 | 40.6 | 33.0 | 32.0 | 39.6 | 33.3 | 31.4 |
| **Emerging Green Adopters** | 40.2 | 44.3 | 45.7 | 38.9 | 42.5 | 44.6 | 36.5 |
| Albania | 27.3 | 27.3 | 31.8 | 28.6 | 20.0 | 34.8 | 31.8 |
| Bosnia and Herzegovina | 53.7 | 41.7 | 45.0 | 50.0 | 47.5 | 53.4 | 37.9 |
| Bulgaria | 28.7 | 38.0 | 37.9 | 31.1 | 32.6 | 26.7 | 25.3 |
| Cyprus | 46.2 | 41.7 | 55.7 | 39.3 | 53.6 | 58.3 | 38.6 |
| Greece | 39.2 | 37.1 | 47.8 | 41.9 | 45.3 | 53.7 | 41.3 |
| Hungary | 40.6 | 42.6 | 48.4 | 38.8 | 43.9 | 37.9 | 38.5 |
| Ireland | 45.7 | 54.3 | 44.1 | 47.1 | 43.8 | 54.5 | 39.4 |
| Italy | 34.0 | 41.4 | 39.4 | 32.0 | 35.6 | 38.0 | 44.7 |
| Latvia | 28.4 | 36.3 | 29.4 | 22.5 | 33.3 | 21.6 | 17.6 |
| Malta | 40.6 | 45.2 | 61.3 | 40.6 | 53.1 | 44.1 | 35.5 |
| North Macedonia | 19.4 | 16.0 | 26.2 | 21.2 | 19.6 | 25.5 | 17.0 |
| Poland | 52.0 | 54.3 | 46.4 | 41.7 | 43.5 | 50.4 | 40.6 |
| Romania | 33.8 | 49.3 | 38.4 | 33.3 | 39.2 | 37.5 | 34.7 |
| Serbia | 38.3 | 49.4 | 45.7 | 39.1 | 43.5 | 47.8 | 39.1 |
| Slovakia | 41.9 | 40.7 | 34.6 | 39.3 | 46.4 | 40.0 | 40.7 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| Türkiye | 47.2 | 55.2 | 56.5 | 45.7 | 60.9 | 48.5 | 40.3 |
| Ukraine | 42.3 | 60.6 | 74.0 | 65.4 | 55.8 | 65.4 | 54.4 |
| Uruguay | 64.5 | 66.7 | 59.3 | 42.9 | 46.7 | 65.4 | 39.3 |
| **Fossil-Fuel Exporters** | 34.3 | 38.0 | 37.8 | 32.6 | 34.2 | 44.4 | 33.9 |
| Algeria | 32.0 | 49.0 | 34.0 | 16.3 | 50.0 | 34.0 | 36.7 |
| Azerbaijan | 5.0 | 2.0 | 3.0 | 3.1 | 0.1 | 85.9 | 3.1 |
| Bahrain | 46.7 | 47.4 | 44.6 | 19.3 | 34.5 | 54.4 | 34.6 |
| Brunei Darussalam* | 32.4 | 40.6 | 52.1 | 37.5 | 57.1 | 55.7 | 47.0 |
| Gabon* | 40.0 | 50.0 | 26.9 | 45.5 | 28.0 | 34.8 | 28.6 |
| Iran (Islamic Republic of) | 59.0 | 45.2 | 51.3 | 48.6 | 52.9 | 50.7 | 51.4 |
| Iraq* | 25.3 | 24.4 | 36.4 | 24.1 | 23.0 | 19.8 | 19.0 |
| Kazakhstan | 38.5 | 40.6 | 47.5 | 47.6 | 47.6 | 50.8 | 61.8 |
| Kuwait | 12.0 | 22.7 | 34.8 | 23.8 | 21.1 | 25.0 | 27.8 |
| Oman | 30.7 | 42.0 | 29.7 | 34.2 | 23.0 | 39.7 | 23.0 |
| Qatar | 33.3 | 53.5 | 55.7 | 50.0 | 44.3 | 55.1 | 55.7 |
| Saudi Arabia | 24.7 | 34.7 | 27.3 | 28.4 | 29.1 | 22.0 | 29.3 |
| United Arab Emirates | 40.3 | 28.6 | 33.9 | 22.4 | 24.1 | 30.9 | 21.2 |
| Uzbekistan | 43.9 | 45.0 | 39.7 | 41.8 | 28.1 | 56.4 | 22.0 |
| Venezuela* | 51.4 | 44.1 | 50.0 | 46.4 | 50.7 | 51.5 | 47.8 |
| **Growth Economies** | 44.1 | 45.8 | 44.2 | 38.8 | 44.6 | 47.8 | 39.9 |
| Argentina | 52.6 | 54.7 | 50.7 | 47.8 | 52.2 | 50.0 | 47.5 |
| Armenia | 46.4 | 49.1 | 57.4 | 41.5 | 39.6 | 53.8 | 34.7 |
| Bolivia (Plurinational State of) | 50.0 | 44.7 | 60.5 | 36.1 | 58.3 | 61.8 | 47.1 |
| Botswana | 17.7 | 29.3 | 29.5 | 28.9 | 27.6 | 45.9 | 34.3 |
| Brazil | 46.9 | 54.1 | 51.0 | 43.1 | 46.4 | 55.4 | 43.4 |
| Chile | 54.1 | 51.5 | 56.3 | 54.3 | 48.4 | 45.2 | 54.8 |
| Colombia | 38.2 | 42.4 | 40.5 | 32.9 | 41.2 | 40.5 | 45.1 |
| Costa Rica | 50.6 | 60.5 | 52.4 | 39.3 | 48.8 | 56.8 | 51.4 |
| Dominican Republic | 49.5 | 51.0 | 54.8 | 34.3 | 41.3 | 46.1 | 45.5 |
| Ecuador | 47.7 | 46.0 | 37.6 | 41.2 | 49.4 | 52.9 | 38.1 |
| Egypt | 53.7 | 57.9 | 58.1 | 53.8 | 58.1 | 46.6 | 42.5 |
| El Salvador | 50.7 | 52.9 | 45.7 | 44.3 | 53.6 | 46.4 | 36.5 |
| Georgia | 36.8 | 26.2 | 29.9 | 30.2 | 32.8 | 30.3 | 32.8 |
| Honduras | 47.8 | 56.8 | 40.0 | 36.0 | 46.6 | 48.3 | 43.4 |
| India | 8.8 | 9.6 | 9.2 | 8.8 | 10.6 | 9.0 | 9.0 |
| Indonesia | 42.6 | 37.6 | 36.6 | 43.6 | 38.6 | 48.0 | 28.7 |
| Jamaica | 53.1 | 53.3 | 40.9 | 36.2 | 48.9 | 54.3 | 32.6 |
| Jordan | 37.8 | 50.0 | 38.6 | 47.7 | 52.2 | 64.3 | 51.2 |
| Malaysia | 55.6 | 48.0 | 46.2 | 62.5 | 48.0 | 56.0 | 52.2 |
| Mauritius | 64.6 | 50.0 | 48.9 | 43.2 | 55.8 | 63.0 | 47.7 |
| Mexico | 48.1 | 44.0 | 45.3 | 35.1 | 41.3 | 49.3 | 29.0 |
| Mongolia | 50.0 | 47.6 | 53.1 | 37.9 | 44.4 | 53.8 | 43.4 |
| Morocco | 30.3 | 34.5 | 39.3 | 30.0 | 50.0 | 26.9 | 31.8 |
| Namibia | 34.5 | 42.3 | 42.3 | 40.7 | 39.3 | 48.1 | 44.0 |
| Panama | 38.6 | 64.4 | 43.0 | 41.0 | 48.7 | 55.8 | 42.3 |
| Paraguay | 36.1 | 35.5 | 45.7 | 32.9 | 41.7 | 40.0 | 31.9 |
| Peru | 49.3 | 42.6 | 42.3 | 36.2 | 43.3 | 37.7 | 38.5 |
| Philippines | 31.1 | 37.3 | 37.9 | 28.8 | 37.9 | 45.8 | 44.6 |
| South Africa | 43.3 | 52.7 | 51.1 | 50.0 | 54.8 | 61.4 | 45.0 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| Thailand | 44.7 | 48.0 | 44.0 | 41.9 | 36.0 | 44.7 | 31.9 |
| Tunisia | 63.8 | 61.0 | 57.7 | 41.8 | 57.9 | 52.6 | 44.1 |
| Viet Nam | 37.8 | 30.5 | 28.7 | 21.1 | 32.6 | 40.0 | 30.8 |
| **Frontier Economies** | 40.3 | 39.4 | 42.4 | 37.6 | 42.9 | 43.6 | 35.9 |
| Angola | 35.3 | 36.0 | 30.6 | 29.9 | 34.7 | 34.2 | 33.6 |
| Bangladesh | 61.8 | 67.1 | 52.0 | 40.8 | 60.5 | 48.7 | 45.3 |
| Cameroon | 20.0 | 30.8 | 38.4 | 27.1 | 45.2 | 31.4 | 43.4 |
| Chad | 34.6 | 15.8 | 52.6 | 42.6 | 39.4 | 57.4 | 33.3 |
| Côte D'Ivoire | 33.1 | 42.5 | 35.4 | 42.5 | 42.9 | 43.0 | 40.6 |
| Democratic Republic of the Congo | 36.7 | 32.1 | 37.9 | 32.1 | 36.7 | 46.4 | 25.9 |
| Ghana | 37.2 | 56.8 | 37.5 | 36.6 | 50.0 | 40.0 | 26.6 |
| Guatemala | 45.1 | 36.1 | 37.8 | 34.6 | 47.3 | 37.5 | 37.7 |
| Kenya | 42.7 | 43.8 | 44.4 | 31.1 | 44.6 | 41.8 | 40.2 |
| Kyrgyzstan | 32.1 | 38.8 | 44.7 | 41.0 | 34.2 | 42.7 | 32.8 |
| Lao PDR | 45.3 | 41.1 | 52.7 | 26.3 | 38.5 | 36.2 | 32.6 |
| Lesotho | 55.4 | 38.0 | 39.1 | 52.2 | 45.7 | 50.0 | 40.2 |
| Malawi | 37.3 | 33.8 | 41.4 | 36.1 | 35.1 | 45.2 | 30.0 |
| Mali | 21.3 | 28.4 | 35.1 | 29.7 | 26.5 | 43.5 | 28.2 |
| Nepal | 27.8 | 31.4 | 29.2 | 29.3 | 38.2 | 32.4 | 31.6 |
| Nigeria | 57.7 | 60.0 | 50.0 | 49.2 | 63.5 | 61.9 | 56.1 |
| Pakistan | 43.3 | 54.2 | 48.8 | 41.9 | 39.8 | 37.3 | 38.6 |
| Rwanda | 47.2 | 48.8 | 48.7 | 38.0 | 48.8 | 50.0 | 31.6 |
| Senegal | 45.2 | 32.1 | 35.7 | 44.8 | 33.3 | 46.4 | 34.8 |
| Sri Lanka | 46.3 | 49.3 | 43.1 | 28.4 | 42.9 | 48.4 | 39.0 |
| United Republic of Tanzania | 37.2 | 34.4 | 52.7 | 47.2 | 47.8 | 44.9 | 34.9 |
| Yemen | 29.1 | 22.9 | 41.3 | 18.4 | 20.8 | 24.4 | 34.8 |
| Zambia | 48.6 | 33.3 | 40.0 | 49.2 | 53.7 | 50.0 | 31.7 |
| Zimbabwe | 47.0 | 38.7 | 49.0 | 54.3 | 58.8 | 52.1 | 37.1 |
| **Green Developers** | 41.4 | 41.3 | 40.8 | 35.3 | 47.5 | 46.0 | 38.3 |
| Germany | 39.4 | 35.1 | 26.9 | 30.4 | 40.9 | 32.6 | 29.7 |
| Japan | 44.6 | 44.2 | 44.1 | 34.6 | 47.2 | 52.9 | 33.7 |
| South Korea | 43.4 | 54.5 | 58.6 | 40.4 | 66.7 | 58.6 | 57.6 |
| United States of America | 38.1 | 31.5 | 33.5 | 35.6 | 35.3 | 39.7 | 32.1 |

Source

World Economic Forum Executive Opinion Survey 2024.

Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

TABLE 2 **Share (%) of executives that have identified unequal access to technology among the top 2 most severe economic equity risks for each green transition area**

In your country, how will the decarbonization and green transition actions impact the economy?

Most companies will not have the know-how and technology necessary for green investments

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Inclusive Green Adopters** | 29.5 | 34.7 | 26.6 | 26.0 | 34.1 | 31.0 | 38.8 |
| Australia | 25.9 | 32.1 | 27.2 | 28.0 | 28.0 | 30.9 | 18.5 |
| Austria | 36.4 | 33.9 | 21.2 | 27.2 | 29.6 | 32.4 | 49.0 |
| Belgium | 33.8 | 27.5 | 30.0 | 31.2 | 25.6 | 32.1 | 32.0 |
| Canada | 26.2 | 29.0 | 26.7 | 20.2 | 30.6 | 33.0 | 29.3 |
| Croatia | 41.6 | 39.4 | 37.1 | 39.7 | 39.4 | 33.3 | 56.3 |
| Czechia | 21.6 | 21.2 | 12.7 | 16.7 | 35.1 | 23.9 | 38.2 |
| Denmark | 33.7 | 40.9 | 21.6 | 17.0 | 33.7 | 37.9 | 38.8 |
| Estonia | 22.5 | 22.1 | 20.0 | 14.9 | 31.8 | 30.4 | 45.3 |
| Finland | 30.6 | 41.3 | 32.6 | 26.2 | 46.7 | 45.5 | 59.5 |
| France | 18.2 | 31.3 | 23.9 | 32.8 | 31.8 | 20.9 | 26.2 |
| Iceland | 32.9 | 30.8 | 25.0 | 28.6 | 30.6 | 35.5 | 40.7 |
| Israel | 31.8 | 50.0 | 21.1 | 17.6 | 37.5 | 25.0 | 25.0 |
| Luxembourg | 28.2 | 35.1 | 23.3 | 25.7 | 30.8 | 25.0 | 41.2 |
| Netherlands | 42.2 | 53.2 | 28.2 | 32.1 | 34.2 | 38.2 | 54.5 |
| New Zealand | 18.5 | 35.9 | 28.6 | 31.7 | 37.5 | 25.0 | 29.3 |
| Norway | 17.2 | 33.9 | 25.0 | 21.3 | 33.3 | 23.8 | 29.8 |
| Portugal | 39.4 | 46.0 | 28.4 | 28.1 | 40.9 | 39.3 | 47.5 |
| Singapore | 47.4 | 42.7 | 30.3 | 37.9 | 58.9 | 52.6 | 63.3 |
| Slovenia | 24.7 | 17.6 | 22.1 | 25.4 | 22.1 | 20.3 | 40.9 |
| Spain | 26.9 | 33.3 | 28.1 | 15.6 | 30.2 | 22.0 | 36.8 |
| Sweden | 29.1 | 39.0 | 36.1 | 27.7 | 32.5 | 37.0 | 24.1 |
| Switzerland | 23.8 | 31.1 | 27.4 | 13.6 | 27.0 | 16.9 | 31.7 |
| United Kingdom | 25.7 | 31.1 | 34.9 | 38.8 | 35.8 | 32.4 | 35.3 |
| **Emerging Green Adopters** | 29.3 | 31.5 | 24.8 | 24.5 | 32.4 | 30.3 | 33.4 |
| Albania | 36.4 | 36.4 | 45.5 | 33.3 | 45.0 | 43.5 | 40.9 |
| Bosnia and Herzegovina | 37.3 | 40.0 | 33.3 | 30.0 | 40.7 | 44.8 | 41.4 |
| Bulgaria | 12.9 | 31.5 | 19.5 | 20.0 | 30.4 | 22.2 | 22.0 |
| Cyprus | 44.6 | 46.7 | 24.6 | 27.9 | 32.1 | 35.0 | 35.1 |
| Greece | 43.0 | 42.9 | 22.4 | 28.4 | 44.0 | 38.8 | 57.1 |
| Hungary | 21.7 | 16.2 | 18.8 | 17.9 | 25.8 | 27.3 | 20.0 |
| Ireland | 45.7 | 40.0 | 35.3 | 41.2 | 40.6 | 30.3 | 51.5 |
| Italy | 21.0 | 26.3 | 26.3 | 27.0 | 25.7 | 17.0 | 21.3 |
| Latvia | 22.5 | 16.7 | 14.7 | 13.7 | 15.7 | 17.6 | 15.7 |
| Malta | 31.3 | 38.7 | 16.1 | 18.8 | 28.1 | 26.5 | 38.7 |
| North Macedonia | 5.6 | 6.0 | 5.8 | 7.7 | 6.9 | 7.8 | 7.0 |
| Poland | 23.3 | 33.6 | 26.4 | 22.3 | 32.6 | 28.6 | 34.1 |
| Romania | 30.0 | 20.0 | 23.3 | 31.9 | 27.0 | 36.1 | 30.6 |
| Serbia | 33.0 | 23.6 | 28.3 | 30.4 | 37.0 | 38.0 | 35.6 |
| Slovakia | 12.9 | 22.2 | 19.2 | 10.7 | 25.0 | 16.0 | 18.5 |
| Türkiye | 27.8 | 29.9 | 24.6 | 30.0 | 24.6 | 29.4 | 26.9 |
| Ukraine | 32.7 | 60.6 | 28.8 | 31.7 | 54.8 | 55.8 | 62.1 |
| Uruguay | 45.2 | 36.7 | 33.3 | 17.9 | 46.7 | 30.8 | 42.9 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Fossil-Fuel Exporters** | 35.2 | 37.1 | 35.1 | 30.3 | 41.4 | 32.8 | 35.6 |
| Algeria | 28.0 | 20.4 | 19.1 | 22.4 | 32.6 | 32.0 | 26.5 |
| Azerbaijan | 84.0 | 82.7 | 85.9 | 3.1 | 89.9 | 1.0 | 2.0 |
| Bahrain | 45.0 | 40.4 | 37.5 | 35.1 | 43.6 | 42.1 | 42.3 |
| Brunei Darussalam* | 38.0 | 43.5 | 31.0 | 51.4 | 44.3 | 50.0 | 53.0 |
| Gabon* | 24.0 | 19.2 | 26.9 | 13.6 | 20.0 | 21.7 | 28.6 |
| Iran (Islamic Republic of) | 37.2 | 37.0 | 38.2 | 39.2 | 37.1 | 40.8 | 38.9 |
| Iraq* | 29.5 | 39.0 | 29.5 | 40.2 | 32.2 | 37.0 | 35.7 |
| Kazakhstan | 38.5 | 32.8 | 29.5 | 31.7 | 44.4 | 35.6 | 34.5 |
| Kuwait | 16.0 | 22.7 | 21.7 | 38.1 | 36.8 | 40.0 | 38.9 |
| Oman | 21.3 | 27.5 | 43.2 | 31.5 | 39.2 | 25.0 | 36.5 |
| Qatar | 48.6 | 43.7 | 38.6 | 31.4 | 37.1 | 37.7 | 57.1 |
| Saudi Arabia | 29.0 | 44.4 | 46.6 | 35.2 | 40.7 | 41.5 | 40.2 |
| United Arab Emirates | 35.5 | 41.1 | 30.4 | 36.2 | 48.3 | 36.4 | 36.5 |
| Uzbekistan | 24.2 | 25.0 | 20.7 | 20.0 | 36.8 | 14.5 | 26.0 |
| Venezuela* | 29.2 | 36.8 | 27.9 | 24.6 | 37.7 | 36.4 | 37.3 |
| **Growth Economies** | 34.0 | 36.1 | 30.5 | 32.8 | 37.3 | 36.5 | 40.0 |
| Argentina | 33.3 | 30.7 | 21.9 | 19.4 | 34.3 | 32.4 | 36.1 |
| Armenia | 41.1 | 39.6 | 27.8 | 37.7 | 43.4 | 40.4 | 53.1 |
| Bolivia (Plurinational State of) | 42.1 | 36.8 | 15.8 | 22.2 | 30.6 | 29.4 | 47.1 |
| Botswana | 31.6 | 32.0 | 30.8 | 32.9 | 46.1 | 47.3 | 40.0 |
| Brazil | 35.0 | 35.8 | 27.8 | 27.6 | 34.7 | 30.8 | 28.5 |
| Chile | 29.7 | 30.3 | 25.0 | 14.3 | 25.8 | 19.4 | 32.3 |
| Colombia | 32.6 | 24.7 | 23.8 | 23.5 | 28.2 | 34.5 | 28.0 |
| Costa Rica | 38.6 | 37.0 | 36.9 | 39.3 | 42.5 | 37.0 | 36.1 |
| Dominican Republic | 36.4 | 39.4 | 28.8 | 37.0 | 35.6 | 39.2 | 38.4 |
| Ecuador | 35.2 | 41.4 | 29.4 | 36.5 | 37.6 | 40.0 | 41.7 |
| Egypt | 33.1 | 32.5 | 26.5 | 36.8 | 47.0 | 58.5 | 55.8 |
| El Salvador | 49.3 | 42.6 | 32.9 | 40.0 | 40.6 | 47.8 | 46.0 |
| Georgia | 38.2 | 44.6 | 41.8 | 33.3 | 39.1 | 50.0 | 35.9 |
| Honduras | 35.9 | 34.1 | 30.6 | 28.1 | 27.3 | 33.7 | 34.9 |
| India | 13.7 | 12.9 | 13.8 | 9.2 | 8.1 | 12.9 | 14.0 |
| Indonesia | 36.6 | 40.6 | 37.6 | 40.6 | 43.6 | 43.0 | 38.6 |
| Jamaica | 32.7 | 48.9 | 34.1 | 34.0 | 48.9 | 45.7 | 51.2 |
| Jordan | 44.4 | 40.9 | 43.2 | 40.9 | 47.8 | 35.7 | 34.1 |
| Malaysia | 44.4 | 28.0 | 50.0 | 37.5 | 36.0 | 40.0 | 43.5 |
| Mauritius | 22.9 | 32.6 | 26.7 | 22.7 | 39.5 | 26.1 | 27.3 |
| Mexico | 41.6 | 44.0 | 30.7 | 43.2 | 44.0 | 38.7 | 55.1 |
| Mongolia | 33.3 | 36.5 | 35.9 | 47.0 | 41.3 | 40.0 | 45.3 |
| Morocco | 36.4 | 31.0 | 28.6 | 30.0 | 42.9 | 38.5 | 50.0 |
| Namibia | 37.9 | 42.3 | 34.6 | 48.1 | 39.3 | 33.3 | 32.0 |
| Panama | 43.2 | 34.5 | 34.9 | 37.3 | 34.6 | 36.4 | 51.3 |
| Paraguay | 27.7 | 40.8 | 25.9 | 36.8 | 31.9 | 38.6 | 44.4 |
| Peru | 36.2 | 35.3 | 40.8 | 29.0 | 40.3 | 44.9 | 50.8 |
| Philippines | 23.0 | 37.3 | 29.3 | 32.2 | 39.7 | 32.2 | 30.4 |
| South Africa | 19.6 | 28.6 | 22.7 | 34.5 | 26.2 | 26.5 | 37.5 |
| Thailand | 30.3 | 37.3 | 32.0 | 31.1 | 41.3 | 36.8 | 45.8 |
| Tunisia | 28.8 | 44.2 | 30.8 | 41.8 | 42.1 | 32.9 | 38.2 |
| Viet Nam | 22.4 | 37.9 | 25.5 | 24.2 | 33.7 | 25.3 | 37.4 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Frontier Economies** | 30.0 | 36.0 | 30.8 | 32.7 | 36.6 | 35.0 | 36.9 |
| Angola | 23.5 | 34.4 | 27.4 | 27.6 | 37.2 | 38.3 | 28.3 |
| Bangladesh | 47.4 | 34.2 | 46.7 | 48.7 | 48.7 | 51.3 | 52.0 |
| Cameroon | 26.7 | 30.8 | 20.0 | 24.6 | 29.6 | 23.8 | 25.3 |
| Chad | 15.0 | 86.3 | 68.4 | 70.2 | 64.9 | 52.1 | 69.9 |
| Côte D'Ivoire | 30.4 | 36.3 | 33.1 | 36.2 | 34.9 | 36.0 | 31.0 |
| Democratic Republic of the Congo | 23.3 | 25.0 | 27.6 | 32.1 | 43.3 | 25.0 | 29.6 |
| Ghana | 28.2 | 45.9 | 25.0 | 32.4 | 41.7 | 37.1 | 37.5 |
| Guatemala | 40.2 | 38.9 | 29.7 | 38.5 | 32.4 | 33.3 | 43.5 |
| Kenya | 23.9 | 36.6 | 29.6 | 26.4 | 29.5 | 31.8 | 29.4 |
| Kyrgyzstan | 18.5 | 25.0 | 23.7 | 28.2 | 38.4 | 30.7 | 43.3 |
| Lao PDR | 18.9 | 35.6 | 12.9 | 24.2 | 25.3 | 24.5 | 32.6 |
| Lesotho | 41.3 | 9.8 | 22.8 | 26.1 | 41.3 | 34.8 | 29.3 |
| Malawi | 26.7 | 33.8 | 34.3 | 25.0 | 32.4 | 28.8 | 32.9 |
| Mali | 25.3 | 20.3 | 25.7 | 33.8 | 36.8 | 27.5 | 29.6 |
| Nepal | 25.3 | 24.3 | 25.0 | 18.7 | 23.7 | 22.5 | 23.7 |
| Nigeria | 40.8 | 44.6 | 39.4 | 39.3 | 41.3 | 44.4 | 50.9 |
| Pakistan | 40.9 | 39.0 | 34.7 | 40.2 | 44.1 | 48.3 | 36.6 |
| Rwanda | 40.4 | 48.8 | 37.2 | 39.2 | 46.3 | 48.7 | 42.1 |
| Senegal | 35.5 | 32.1 | 35.7 | 27.6 | 25.9 | 21.4 | 30.4 |
| Sri Lanka | 31.3 | 34.3 | 29.2 | 20.9 | 31.7 | 30.6 | 42.4 |
| United Republic of Tanzania | 28.7 | 42.2 | 31.2 | 38.2 | 45.6 | 38.2 | 37.3 |
| Yemen | 20.0 | 27.1 | 17.4 | 22.4 | 22.9 | 31.1 | 26.1 |
| Zambia | 37.1 | 52.4 | 35.4 | 35.4 | 38.8 | 47.0 | 50.0 |
| Zimbabwe | 31.0 | 26.9 | 26.0 | 28.7 | 22.7 | 31.9 | 31.5 |
| **Green Developers** | 34.2 | 42.8 | 35.2 | 34.5 | 37.6 | 41.1 | 41.5 |
| Germany | 23.2 | 35.1 | 24.7 | 18.5 | 26.9 | 33.7 | 25.3 |
| Japan | 42.9 | 48.1 | 38.2 | 49.5 | 48.1 | 49.0 | 51.0 |
| South Korea | 40.4 | 50.5 | 44.4 | 37.4 | 42.4 | 42.4 | 53.5 |
| United States of America | 30.5 | 37.4 | 33.5 | 32.4 | 33.0 | 39.3 | 36.2 |

Source

World Economic Forum Executive Opinion Survey 2024.

Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

TABLE 3 **Share (%) of executives that have identified decreased access to goods and services among the top 2 most severe economic equity risks for each green transition area**

In your country, how will the decarbonization and green transition actions impact the economy?

Goods and services will become less accessible for most consumers

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Inclusive Green Adopters** | 33.0 | 27.1 | 32.0 | 32.9 | 19.2 | 25.9 | 25.3 |
| Australia | 25.9 | 26.2 | 32.1 | 25.6 | 23.2 | 21.0 | 27.2 |
| Austria | 23.3 | 11.9 | 40.7 | 26.3 | 12.2 | 28.8 | 22.1 |
| Belgium | 31.3 | 30.0 | 23.8 | 16.9 | 25.6 | 21.0 | 26.7 |
| Canada | 20.4 | 27.0 | 26.7 | 26.3 | 22.4 | 20.6 | 24.2 |
| Croatia | 29.9 | 25.4 | 25.7 | 28.8 | 19.7 | 26.1 | 18.3 |
| Czechia | 51.4 | 37.9 | 45.1 | 47.2 | 14.9 | 35.8 | 38.2 |
| Denmark | 14.7 | 14.8 | 20.5 | 12.8 | 7.9 | 13.8 | 18.8 |
| Estonia | 33.8 | 50.0 | 53.8 | 50.7 | 18.2 | 34.8 | 28.1 |
| Finland | 28.6 | 32.6 | 34.8 | 40.5 | 8.9 | 20.5 | 21.4 |
| France | 39.4 | 35.8 | 35.8 | 32.8 | 37.9 | 41.8 | 23.1 |
| Iceland | 22.9 | 23.1 | 28.1 | 19.0 | 14.5 | 22.6 | 20.3 |
| Israel | 27.3 | 22.2 | 21.1 | 29.4 | 18.8 | 25.0 | 43.8 |
| Luxembourg | 61.5 | 18.9 | 40.0 | 42.9 | 15.4 | 25.0 | 29.4 |
| Netherlands | 30.1 | 27.8 | 29.5 | 30.9 | 10.1 | 21.1 | 18.2 |
| New Zealand | 30.8 | 26.6 | 23.8 | 31.7 | 23.4 | 31.3 | 19.0 |
| Norway | 31.3 | 19.4 | 26.7 | 27.9 | 27.0 | 22.2 | 26.3 |
| Portugal | 37.2 | 21.8 | 34.1 | 48.3 | 23.9 | 32.1 | 25.0 |
| Singapore | 22.6 | 16.8 | 26.1 | 28.4 | 9.7 | 18.1 | 15.0 |
| Slovenia | 54.5 | 48.5 | 41.2 | 50.7 | 17.6 | 30.5 | 27.3 |
| Spain | 58.2 | 33.3 | 43.8 | 43.8 | 25.4 | 30.5 | 35.1 |
| Sweden | 25.6 | 28.0 | 22.9 | 26.5 | 19.3 | 18.5 | 17.7 |
| Switzerland | 34.9 | 24.6 | 32.3 | 42.4 | 28.6 | 23.7 | 36.7 |
| United Kingdom | 23.8 | 21.7 | 27.4 | 27.2 | 17.0 | 30.5 | 20.6 |
| **Emerging Green Adopters** | 32.0 | 27.9 | 32.8 | 34.5 | 25.6 | 28.1 | 24.8 |
| Albania | 36.4 | 27.3 | 36.4 | 28.6 | 45.0 | 43.5 | 18.2 |
| Bosnia and Herzegovina | 23.9 | 33.3 | 36.7 | 36.7 | 23.7 | 19.0 | 25.9 |
| Bulgaria | 39.6 | 22.8 | 19.5 | 20.0 | 22.8 | 24.4 | 26.4 |
| Cyprus | 21.5 | 20.0 | 24.6 | 27.9 | 21.4 | 11.7 | 19.3 |
| Greece | 19.0 | 28.6 | 23.9 | 35.1 | 17.3 | 25.4 | 14.3 |
| Hungary | 42.0 | 39.7 | 34.4 | 40.3 | 37.9 | 42.4 | 36.9 |
| Ireland | 37.1 | 20.0 | 32.4 | 20.6 | 21.9 | 24.2 | 21.2 |
| Italy | 31.0 | 22.2 | 25.3 | 26.0 | 23.8 | 27.0 | 19.1 |
| Latvia | 27.5 | 23.5 | 26.5 | 25.5 | 20.6 | 22.5 | 23.5 |
| Malta | 18.8 | 19.4 | 22.6 | 28.1 | 12.5 | 11.8 | 6.5 |
| North Macedonia | 56.5 | 41.0 | 38.8 | 54.8 | 55.9 | 41.2 | 46.0 |
| Poland | 30.7 | 31.4 | 40.7 | 48.2 | 23.9 | 31.6 | 31.2 |
| Romania | 31.3 | 32.0 | 42.5 | 31.9 | 28.4 | 31.9 | 26.4 |
| Serbia | 34.0 | 38.2 | 33.7 | 33.7 | 26.1 | 30.4 | 28.7 |
| Slovakia | 51.6 | 48.1 | 50.0 | 42.9 | 32.1 | 56.0 | 44.4 |
| Türkiye | 34.7 | 23.9 | 29.0 | 28.6 | 18.8 | 26.5 | 26.9 |
| Ukraine | 15.4 | 14.4 | 44.2 | 46.2 | 19.2 | 16.3 | 10.7 |
| Uruguay | 25.8 | 16.7 | 29.6 | 46.4 | 10.0 | 19.2 | 21.4 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Fossil-Fuel Exporters** | 28.1 | 25.8 | 30.1 | 27.2 | 19.1 | 21.3 | 23.7 |
| Algeria | 18.0 | 38.8 | 42.6 | 55.1 | 30.4 | 34.0 | 38.8 |
| Azerbaijan | 92.0 | 4.1 | 89.9 | 0.0 | 3.0 | 4.0 | 3.1 |
| Bahrain | 16.7 | 26.3 | 16.1 | 22.8 | 9.1 | 17.5 | 19.2 |
| Brunei Darussalam* | 15.5 | 20.3 | 23.9 | 16.7 | 8.6 | 11.4 | 9.1 |
| Gabon* | 36.0 | 30.8 | 30.8 | 18.2 | 24.0 | 17.4 | 33.3 |
| Iran (Islamic Republic of) | 12.8 | 17.8 | 14.5 | 17.6 | 20.0 | 9.9 | 18.1 |
| Iraq* | 21.1 | 24.4 | 31.8 | 32.2 | 28.7 | 33.3 | 34.5 |
| Kazakhstan | 21.5 | 31.3 | 27.9 | 30.2 | 14.3 | 25.4 | 12.7 |
| Kuwait | 28.0 | 27.3 | 21.7 | 28.6 | 21.1 | 10.0 | 16.7 |
| Oman | 18.7 | 29.0 | 18.9 | 30.1 | 18.9 | 29.4 | 24.3 |
| Qatar | 33.3 | 47.9 | 30.0 | 41.4 | 34.3 | 33.3 | 35.7 |
| Saudi Arabia | 29.0 | 16.7 | 22.7 | 27.3 | 24.4 | 25.6 | 24.4 |
| United Arab Emirates | 24.2 | 17.9 | 26.8 | 25.9 | 12.1 | 20.0 | 28.8 |
| Uzbekistan | 37.9 | 33.3 | 31.0 | 34.5 | 26.3 | 30.9 | 42.0 |
| Venezuela* | 16.7 | 20.6 | 23.5 | 27.5 | 11.6 | 16.7 | 14.9 |
| **Growth Economies** | 25.2 | 23.3 | 27.2 | 27.5 | 19.1 | 21.6 | 23.4 |
| Argentina | 24.4 | 25.3 | 37.0 | 32.8 | 16.4 | 22.1 | 24.6 |
| Armenia | 23.2 | 17.0 | 22.2 | 28.3 | 13.2 | 17.3 | 18.4 |
| Bolivia (Plurinational State of) | 28.9 | 23.7 | 34.2 | 33.3 | 19.4 | 17.6 | 23.5 |
| Botswana | 17.7 | 13.3 | 23.1 | 19.7 | 10.5 | 9.5 | 21.4 |
| Brazil | 33.9 | 28.9 | 30.6 | 30.5 | 26.4 | 29.6 | 27.2 |
| Chile | 37.8 | 45.5 | 21.9 | 34.3 | 35.5 | 48.4 | 32.3 |
| Colombia | 24.7 | 30.6 | 31.0 | 28.2 | 24.7 | 21.4 | 29.3 |
| Costa Rica | 30.1 | 16.0 | 31.0 | 28.6 | 18.8 | 21.0 | 22.2 |
| Dominican Republic | 26.2 | 18.3 | 20.2 | 30.6 | 21.2 | 19.6 | 17.2 |
| Ecuador | 26.1 | 21.8 | 37.6 | 30.6 | 21.2 | 18.8 | 25.0 |
| Egypt | 11.6 | 13.2 | 17.1 | 16.2 | 10.3 | 12.7 | 12.4 |
| El Salvador | 29.0 | 25.0 | 32.9 | 31.4 | 18.8 | 24.6 | 25.4 |
| Georgia | 19.7 | 24.6 | 28.4 | 20.6 | 17.2 | 13.6 | 15.6 |
| Honduras | 26.1 | 26.1 | 29.4 | 30.3 | 20.5 | 22.5 | 21.7 |
| India | 50.7 | 51.8 | 57.1 | 54.8 | 56.9 | 55.6 | 55.6 |
| Indonesia | 28.7 | 22.8 | 24.8 | 19.8 | 17.8 | 20.0 | 30.7 |
| Jamaica | 12.2 | 11.1 | 25.0 | 14.9 | 14.9 | 8.7 | 18.6 |
| Jordan | 8.9 | 11.4 | 18.2 | 11.4 | 10.9 | 9.5 | 9.8 |
| Malaysia | 25.9 | 16.0 | 19.2 | 20.8 | 24.0 | 16.0 | 17.4 |
| Mauritius | 25.0 | 26.1 | 28.9 | 34.1 | 14.0 | 21.7 | 25.0 |
| Mexico | 23.4 | 21.3 | 26.7 | 31.1 | 16.0 | 18.7 | 26.1 |
| Mongolia | 15.2 | 15.9 | 10.9 | 15.2 | 14.3 | 12.3 | 22.6 |
| Morocco | 30.3 | 31.0 | 32.1 | 43.3 | 10.7 | 30.8 | 22.7 |
| Namibia | 13.8 | 19.2 | 7.7 | 11.1 | 3.6 | 22.2 | 16.0 |
| Panama | 27.3 | 17.2 | 26.7 | 30.1 | 21.8 | 22.1 | 24.4 |
| Paraguay | 38.6 | 38.2 | 50.6 | 36.8 | 30.6 | 28.6 | 33.3 |
| Peru | 31.9 | 26.5 | 23.9 | 34.8 | 17.9 | 23.2 | 16.9 |
| Philippines | 32.8 | 30.5 | 27.6 | 40.7 | 29.3 | 22.0 | 25.0 |
| South Africa | 10.3 | 16.5 | 14.8 | 16.7 | 9.5 | 19.3 | 22.5 |
| Thailand | 22.4 | 21.3 | 21.3 | 20.3 | 13.3 | 13.2 | 23.6 |
| Tunisia | 22.5 | 16.9 | 29.5 | 24.1 | 17.1 | 22.4 | 22.1 |
| Viet Nam | 28.6 | 21.1 | 29.8 | 24.2 | 14.7 | 26.3 | 19.8 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Frontier Economies** | 21.5 | 24.0 | 27.4 | 26.2 | 19.5 | 21.4 | 24.2 |
| Angola | 27.9 | 20.0 | 30.6 | 26.0 | 19.0 | 23.3 | 21.2 |
| Bangladesh | 27.6 | 27.6 | 36.0 | 35.5 | 23.7 | 25.0 | 36.0 |
| Cameroon | 33.3 | 33.3 | 33.6 | 30.5 | 33.0 | 41.0 | 29.3 |
| Chad | 54.2 | 7.4 | 11.6 | 19.1 | 14.9 | 11.7 | 15.1 |
| Côte D'Ivoire | 35.4 | 32.4 | 34.8 | 26.4 | 23.4 | 27.3 | 36.1 |
| Democratic Republic of the Congo | 20.0 | 25.0 | 24.1 | 28.6 | 16.7 | 14.3 | 22.2 |
| Ghana | 9.0 | 16.2 | 29.2 | 43.7 | 6.9 | 15.7 | 25.0 |
| Guatemala | 26.8 | 29.2 | 39.2 | 28.2 | 18.9 | 29.2 | 24.6 |
| Kenya | 8.5 | 17.0 | 17.6 | 25.5 | 15.2 | 17.3 | 14.7 |
| Kyrgyzstan | 17.3 | 25.0 | 18.4 | 24.4 | 21.9 | 26.7 | 20.9 |
| Lao PDR | 10.5 | 16.7 | 25.8 | 29.5 | 27.5 | 25.5 | 26.7 |
| Lesotho | 3.3 | 50.0 | 32.6 | 18.5 | 7.6 | 15.2 | 27.2 |
| Malawi | 14.7 | 14.9 | 20.0 | 12.5 | 16.2 | 12.3 | 15.7 |
| Mali | 30.7 | 31.1 | 43.2 | 28.4 | 39.7 | 36.2 | 29.6 |
| Nepal | 22.8 | 21.4 | 19.4 | 30.7 | 17.1 | 21.1 | 23.7 |
| Nigeria | 11.3 | 21.5 | 19.7 | 18.0 | 12.7 | 11.1 | 14.0 |
| Pakistan | 16.5 | 16.9 | 21.5 | 16.2 | 15.3 | 16.9 | 28.7 |
| Rwanda | 20.2 | 13.1 | 21.8 | 13.9 | 5.0 | 7.7 | 18.4 |
| Senegal | 25.8 | 28.6 | 28.6 | 20.7 | 33.3 | 17.9 | 21.7 |
| Sri Lanka | 20.9 | 22.4 | 29.2 | 34.3 | 19.0 | 16.1 | 23.7 |
| United Republic of Tanzania | 36.2 | 32.2 | 29.0 | 29.2 | 21.1 | 30.3 | 37.3 |
| Yemen | 20.0 | 35.4 | 39.1 | 53.1 | 33.3 | 42.2 | 28.3 |
| Zambia | 10.0 | 15.9 | 23.1 | 20.0 | 9.0 | 12.1 | 23.3 |
| Zimbabwe | 12.0 | 22.6 | 28.1 | 16.0 | 18.6 | 17.0 | 18.0 |
| **Green Developers** | 27.7 | 28.5 | 33.9 | 31.5 | 24.3 | 28.4 | 33.1 |
| Germany | 24.2 | 19.6 | 34.4 | 28.3 | 16.1 | 27.2 | 33.0 |
| Japan | 30.4 | 31.7 | 46.1 | 37.4 | 26.4 | 32.4 | 41.3 |
| South Korea | 26.3 | 30.3 | 24.2 | 30.3 | 26.3 | 25.3 | 29.3 |
| United States of America | 30.0 | 32.4 | 30.8 | 30.2 | 28.5 | 28.8 | 28.9 |

Source

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Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

TABLE 4 **Share (%) of executives that have identified decreased access to goods and services among the top 2 most severe economic equity risks for each green transition area**

In your country, how will the decarbonization and green transition actions impact the economy?

Goods and services will become unaffordable for most consumers

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Inclusive Green Adopters** | 20.5 | 16.1 | 22.3 | 25.2 | 14.3 | 18.3 | 15.3 |
| Australia | 31.8 | 23.8 | 22.2 | 25.6 | 19.5 | 24.7 | 19.8 |
| Austria | 30.2 | 22.0 | 27.4 | 36.8 | 18.3 | 24.3 | 18.3 |
| Belgium | 15.0 | 17.5 | 20.0 | 18.2 | 15.4 | 17.3 | 10.7 |
| Canada | 34.0 | 16.0 | 26.7 | 30.3 | 21.4 | 26.8 | 24.2 |
| Croatia | 3.9 | 4.2 | 10.0 | 6.8 | 2.8 | 5.8 | 2.8 |
| Czechia | 6.8 | 13.6 | 18.3 | 12.5 | 9.5 | 14.9 | 10.3 |
| Denmark | 48.4 | 42.0 | 56.8 | 57.4 | 38.2 | 39.1 | 38.8 |
| Estonia | 15.5 | 7.4 | 13.8 | 22.4 | 12.1 | 7.2 | 15.6 |
| Finland | 24.5 | 8.7 | 17.4 | 35.7 | 11.1 | 18.2 | 2.4 |
| France | 25.8 | 17.9 | 16.4 | 14.9 | 7.6 | 20.9 | 20.0 |
| Iceland | 14.3 | 15.4 | 17.2 | 27.0 | 11.3 | 21.0 | 8.5 |
| Israel | 4.5 | 22.2 | 26.3 | 17.6 | 6.3 | 12.5 | 12.5 |
| Luxembourg | 15.4 | 8.1 | 26.7 | 28.6 | 12.8 | 11.1 | 14.7 |
| Netherlands | 16.9 | 7.6 | 19.2 | 27.2 | 7.6 | 10.5 | 13.0 |
| New Zealand | 36.9 | 34.4 | 36.5 | 31.7 | 29.7 | 21.9 | 25.9 |
| Norway | 23.4 | 16.1 | 18.3 | 21.3 | 17.5 | 23.8 | 19.3 |
| Portugal | 7.4 | 5.7 | 6.8 | 13.5 | 8.0 | 7.1 | 8.8 |
| Singapore | 19.5 | 19.1 | 27.7 | 30.2 | 11.3 | 12.1 | 13.3 |
| Slovenia | 19.5 | 16.2 | 22.1 | 34.3 | 13.2 | 10.2 | 12.1 |
| Spain | 7.5 | 7.9 | 17.2 | 21.9 | 6.3 | 18.6 | 10.5 |
| Sweden | 25.6 | 15.9 | 19.3 | 21.7 | 16.9 | 22.2 | 20.3 |
| Switzerland | 20.6 | 16.4 | 25.8 | 21.2 | 17.5 | 27.1 | 8.3 |
| United Kingdom | 24.8 | 12.3 | 21.7 | 23.3 | 15.1 | 22.9 | 21.6 |
| **Emerging Green Adopters** | 20.4 | 16.3 | 17.6 | 23.6 | 14.5 | 15.9 | 15.9 |
| Albania | 18.2 | 27.3 | 4.5 | 19.0 | 20.0 | 4.3 | 0.0 |
| Bosnia and Herzegovina | 19.4 | 11.7 | 16.7 | 20.0 | 16.9 | 15.5 | 17.2 |
| Bulgaria | 22.8 | 12.0 | 21.8 | 27.8 | 13.0 | 21.1 | 25.3 |
| Cyprus | 21.5 | 16.7 | 23.0 | 27.9 | 14.3 | 13.3 | 21.1 |
| Greece | 17.7 | 17.1 | 26.9 | 25.7 | 17.3 | 10.4 | 9.5 |
| Hungary | 26.1 | 30.9 | 26.6 | 29.9 | 24.2 | 22.7 | 30.8 |
| Ireland | 17.1 | 22.9 | 17.6 | 29.4 | 9.4 | 24.2 | 12.1 |
| Italy | 20.0 | 4.0 | 11.1 | 15.0 | 7.9 | 17.0 | 17.0 |
| Latvia | 50.0 | 37.3 | 44.1 | 54.9 | 38.2 | 42.2 | 36.3 |
| Malta | 40.6 | 25.8 | 16.1 | 37.5 | 28.1 | 29.4 | 22.6 |
| North Macedonia | 24.1 | 37.0 | 36.9 | 17.3 | 21.6 | 29.4 | 30.0 |
| Poland | 15.3 | 7.1 | 14.3 | 13.7 | 8.7 | 5.3 | 12.3 |
| Romania | 15.0 | 13.3 | 11.0 | 16.7 | 9.5 | 13.9 | 15.3 |
| Serbia | 16.0 | 12.4 | 13.0 | 23.9 | 13.0 | 12.0 | 16.1 |
| Slovakia | 6.5 | 7.4 | 15.4 | 25.0 | 3.6 | 4.0 | 7.4 |
| Türkiye | 9.7 | 3.0 | 5.8 | 8.6 | 5.8 | 5.9 | 7.5 |
| Ukraine | 21.2 | 4.8 | 7.7 | 18.3 | 5.8 | 12.5 | 2.9 |
| Uruguay | 6.5 | 3.3 | 3.7 | 14.3 | 3.3 | 3.8 | 3.6 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Fossil-Fuel Exporters** | 26.6 | 25.9 | 22.4 | 23.7 | 18.7 | 20.0 | 19.5 |
| Algeria | 28.0 | 18.4 | 29.8 | 24.5 | 17.4 | 26.0 | 12.2 |
| Azerbaijan | 2.0 | 90.8 | 0.0 | 2.0 | 2.0 | 2.0 | 1.0 |
| Bahrain | 15.0 | 14.0 | 25.0 | 33.3 | 14.5 | 8.8 | 17.3 |
| Brunei Darussalam* | 25.4 | 15.9 | 21.1 | 18.1 | 8.6 | 8.6 | 9.1 |
| Gabon* | 28.0 | 7.7 | 23.1 | 31.8 | 20.0 | 26.1 | 38.1 |
| Iran (Islamic Republic of) | 11.5 | 8.2 | 17.1 | 18.9 | 10.0 | 16.9 | 15.3 |
| Iraq* | 41.1 | 36.6 | 28.4 | 25.3 | 27.6 | 24.7 | 28.6 |
| Kazakhstan | 13.8 | 10.9 | 11.5 | 11.1 | 11.1 | 15.3 | 9.1 |
| Kuwait | 48.0 | 54.5 | 47.8 | 33.3 | 36.8 | 40.0 | 27.8 |
| Oman | 42.7 | 24.6 | 24.3 | 24.7 | 25.7 | 19.1 | 20.3 |
| Qatar | 36.1 | 16.9 | 25.7 | 24.3 | 17.1 | 27.5 | 12.9 |
| Saudi Arabia | 50.5 | 33.3 | 30.7 | 31.8 | 33.7 | 30.5 | 36.6 |
| United Arab Emirates | 17.7 | 17.9 | 16.1 | 25.9 | 25.9 | 21.8 | 21.2 |
| Uzbekistan | 22.7 | 20.0 | 20.7 | 34.5 | 21.1 | 25.5 | 30.0 |
| Venezuela* | 16.7 | 19.1 | 14.7 | 15.9 | 8.7 | 7.6 | 13.4 |
| **Growth Economies** | 19.1 | 13.8 | 17.0 | 17.2 | 12.8 | 12.2 | 11.2 |
| Argentina | 11.5 | 12.0 | 16.4 | 19.4 | 9.0 | 8.8 | 9.8 |
| Armenia | 19.6 | 15.1 | 7.4 | 11.3 | 5.7 | 9.6 | 12.2 |
| Bolivia (Plurinational State of) | 13.2 | 2.6 | 7.9 | 11.1 | 2.8 | 2.9 | 5.9 |
| Botswana | 21.5 | 26.7 | 17.9 | 22.4 | 13.2 | 16.2 | 10.0 |
| Brazil | 7.5 | 6.9 | 11.4 | 12.1 | 7.9 | 7.9 | 10.1 |
| Chile | 8.1 | 9.1 | 9.4 | 8.6 | 9.7 | 19.4 | 9.7 |
| Colombia | 10.1 | 12.9 | 16.7 | 20.0 | 12.9 | 11.9 | 8.5 |
| Costa Rica | 4.8 | 9.9 | 8.3 | 7.1 | 6.3 | 2.5 | 6.9 |
| Dominican Republic | 14.0 | 7.7 | 13.5 | 11.1 | 14.4 | 11.8 | 8.1 |
| Ecuador | 8.0 | 6.9 | 10.6 | 10.6 | 9.4 | 3.5 | 4.8 |
| Egypt | 43.0 | 40.4 | 51.3 | 42.7 | 40.2 | 17.8 | 17.7 |
| El Salvador | 13.0 | 4.4 | 11.4 | 11.4 | 5.8 | 10.1 | 7.9 |
| Georgia | 17.1 | 9.2 | 9.0 | 9.5 | 14.1 | 13.6 | 14.1 |
| Honduras | 19.6 | 9.1 | 24.7 | 22.5 | 15.9 | 14.6 | 13.3 |
| India | 4.9 | 5.7 | 4.6 | 4.9 | 3.2 | 2.9 | 2.2 |
| Indonesia | 27.7 | 22.8 | 19.8 | 17.8 | 14.9 | 12.0 | 22.8 |
| Jamaica | 24.5 | 15.6 | 22.7 | 23.4 | 17.0 | 15.2 | 18.6 |
| Jordan | 31.1 | 20.5 | 20.5 | 18.2 | 19.6 | 21.4 | 12.2 |
| Malaysia | 22.2 | 16.0 | 23.1 | 12.5 | 20.0 | 16.0 | 17.4 |
| Mauritius | 22.9 | 8.7 | 15.6 | 22.7 | 11.6 | 6.5 | 11.4 |
| Mexico | 6.5 | 6.7 | 16.0 | 6.8 | 10.7 | 6.7 | 4.3 |
| Mongolia | 21.2 | 15.9 | 14.1 | 10.6 | 12.7 | 12.3 | 1.9 |
| Morocco | 36.4 | 27.6 | 25.0 | 23.3 | 17.9 | 15.4 | 13.6 |
| Namibia | 37.9 | 11.5 | 30.8 | 25.9 | 14.3 | 22.2 | 20.0 |
| Panama | 13.6 | 4.6 | 14.0 | 9.6 | 7.7 | 6.5 | 10.3 |
| Paraguay | 18.1 | 9.2 | 9.9 | 14.5 | 6.9 | 10.0 | 12.5 |
| Peru | 4.3 | 14.7 | 12.7 | 13.0 | 9.0 | 7.2 | 7.7 |
| Philippines | 31.1 | 32.2 | 22.4 | 18.6 | 15.5 | 16.9 | 14.3 |
| South Africa | 17.5 | 11.0 | 25.0 | 17.9 | 11.9 | 13.3 | 13.8 |
| Thailand | 26.3 | 20.0 | 18.7 | 33.8 | 21.3 | 21.1 | 15.3 |
| Tunisia | 25.0 | 9.1 | 14.1 | 21.5 | 7.9 | 19.7 | 7.4 |
| Viet Nam | 27.6 | 15.8 | 20.2 | 34.7 | 18.9 | 14.7 | 13.2 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Frontier Economies** | 26.3 | 21.1 | 22.4 | 23.0 | 17.0 | 18.9 | 18.8 |
| Angola | 23.5 | 19.2 | 23.4 | 22.8 | 17.4 | 18.3 | 19.5 |
| Bangladesh | 34.2 | 28.9 | 26.7 | 35.5 | 25.0 | 34.2 | 28.0 |
| Cameroon | 31.7 | 32.5 | 34.4 | 37.3 | 28.7 | 33.3 | 31.3 |
| Chad | 54.2 | 2.1 | 4.2 | 3.2 | 4.3 | 4.3 | 5.4 |
| Côte D'Ivoire | 28.2 | 21.2 | 24.2 | 20.7 | 23.4 | 25.0 | 25.2 |
| Democratic Republic of the Congo | 23.3 | 32.1 | 37.9 | 25.0 | 26.7 | 32.1 | 25.9 |
| Ghana | 20.5 | 16.2 | 31.9 | 18.3 | 12.5 | 25.7 | 17.2 |
| Guatemala | 14.6 | 12.5 | 17.6 | 11.5 | 12.2 | 8.3 | 8.7 |
| Kenya | 28.2 | 20.5 | 25.0 | 25.5 | 16.1 | 16.4 | 14.7 |
| Kyrgyzstan | 25.9 | 16.3 | 11.8 | 11.5 | 9.6 | 10.7 | 9.0 |
| Lao PDR | 17.9 | 7.8 | 29.0 | 43.2 | 9.9 | 23.4 | 25.6 |
| Lesotho | 1.1 | 1.1 | 2.2 | 1.1 | 3.3 | 0.0 | 0.0 |
| Malawi | 22.7 | 29.7 | 17.1 | 23.6 | 16.2 | 12.3 | 18.6 |
| Mali | 38.7 | 45.9 | 23.0 | 31.1 | 27.9 | 23.2 | 39.4 |
| Nepal | 39.2 | 38.6 | 37.5 | 38.7 | 36.8 | 38.0 | 35.5 |
| Nigeria | 28.2 | 7.7 | 27.3 | 26.2 | 6.3 | 19.0 | 14.0 |
| Pakistan | 37.0 | 22.0 | 22.3 | 27.4 | 22.0 | 20.3 | 16.8 |
| Rwanda | 10.1 | 8.3 | 12.8 | 16.5 | 8.8 | 9.0 | 17.1 |
| Senegal | 22.6 | 21.4 | 32.1 | 17.2 | 18.5 | 14.3 | 17.4 |
| Sri Lanka | 25.4 | 20.9 | 18.5 | 31.3 | 7.9 | 12.9 | 8.5 |
| United Republic of Tanzania | 33.0 | 32.2 | 23.7 | 19.1 | 24.4 | 27.0 | 30.1 |
| Yemen | 38.2 | 37.5 | 23.9 | 24.5 | 27.1 | 22.2 | 15.2 |
| Zambia | 20.0 | 11.1 | 20.0 | 15.4 | 10.4 | 6.1 | 11.7 |
| Zimbabwe | 14.0 | 19.4 | 11.5 | 25.5 | 13.4 | 17.0 | 15.7 |
| **Green Developers** | 29.8 | 23.8 | 27.9 | 37.3 | 23.9 | 25.3 | 21.9 |
| Germany | 33.3 | 23.7 | 26.9 | 40.2 | 23.7 | 26.1 | 23.1 |
| Japan | 7.1 | 6.7 | 5.9 | 14.0 | 5.7 | 2.0 | 3.8 |
| South Korea | 50.5 | 40.4 | 54.5 | 69.7 | 42.4 | 54.5 | 38.4 |
| United States of America | 28.3 | 24.3 | 24.4 | 25.2 | 24.0 | 18.7 | 22.5 |

Source

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Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

TABLE 5 **Share (%) of executives that have identified unequal access to raw materials among the top 2 most severe economic equity risks for each green transition area**

In your country, how will the decarbonization and green transition actions impact the economy?

Most companies will not have access to critical raw materials for green investments

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Inclusive Green Adopters** | 10.1 | 12.4 | 10.7 | 9.8 | 14.8 | 11.4 | 11.0 |
| Australia | 8.2 | 13.1 | 19.8 | 18.3 | 15.9 | 12.3 | 16.0 |
| Austria | 11.6 | 9.3 | 8.0 | 4.4 | 13.9 | 3.6 | 10.6 |
| Belgium | 8.8 | 18.8 | 10.0 | 14.3 | 15.4 | 14.8 | 13.3 |
| Canada | 8.7 | 11.0 | 8.9 | 11.1 | 10.2 | 12.4 | 12.1 |
| Croatia | 9.1 | 5.6 | 10.0 | 9.6 | 9.9 | 7.2 | 9.9 |
| Czechia | 5.4 | 6.1 | 2.8 | 4.2 | 13.5 | 6.0 | 2.9 |
| Denmark | 9.5 | 10.2 | 8.0 | 3.2 | 12.4 | 13.8 | 12.9 |
| Estonia | 11.3 | 7.4 | 4.6 | 6.0 | 21.2 | 4.3 | 4.7 |
| Finland | 12.2 | 13.0 | 19.6 | 11.9 | 24.4 | 18.2 | 9.5 |
| France | 12.1 | 14.9 | 10.4 | 11.9 | 13.6 | 9.0 | 7.7 |
| Iceland | 15.7 | 12.3 | 18.8 | 20.6 | 19.4 | 9.7 | 15.3 |
| Israel | 4.5 | 16.7 | 15.8 | 11.8 | 6.3 | 12.5 | 12.5 |
| Luxembourg | 7.7 | 5.4 | 6.7 | 5.7 | 17.9 | 13.9 | 8.8 |
| Netherlands | 7.2 | 17.7 | 5.1 | 3.7 | 11.4 | 13.2 | 18.2 |
| New Zealand | 15.4 | 12.5 | 11.1 | 12.7 | 14.1 | 17.2 | 15.5 |
| Norway | 10.9 | 19.4 | 16.7 | 14.8 | 15.9 | 22.2 | 10.5 |
| Portugal | 7.4 | 12.6 | 9.1 | 5.6 | 8.0 | 6.0 | 8.8 |
| Singapore | 9.0 | 13.0 | 7.6 | 10.3 | 12.9 | 16.4 | 6.7 |
| Slovenia | 6.5 | 5.9 | 7.4 | 3.0 | 20.6 | 11.9 | 9.1 |
| Spain | 11.9 | 7.9 | 6.3 | 9.4 | 15.9 | 8.5 | 10.5 |
| Sweden | 14.0 | 12.2 | 14.5 | 10.8 | 16.9 | 7.4 | 8.9 |
| Switzerland | 12.7 | 16.4 | 8.1 | 10.6 | 11.1 | 8.5 | 13.3 |
| United Kingdom | 12.4 | 23.6 | 16.0 | 12.6 | 18.9 | 13.3 | 15.7 |
| **Emerging Green Adopters** | 10.4 | 11.9 | 8.8 | 10.9 | 14.3 | 10.4 | 15.0 |
| Albania | 13.6 | 18.2 | 9.1 | 28.6 | 5.0 | 8.7 | 36.4 |
| Bosnia and Herzegovina | 7.5 | 18.3 | 10.0 | 13.3 | 15.3 | 13.8 | 19.0 |
| Bulgaria | 19.8 | 19.6 | 21.8 | 20.0 | 25.0 | 24.4 | 17.6 |
| Cyprus | 9.2 | 10.0 | 3.3 | 8.2 | 8.9 | 13.3 | 8.8 |
| Greece | 15.2 | 14.3 | 11.9 | 10.8 | 20.0 | 13.4 | 17.5 |
| Hungary | 7.2 | 5.9 | 9.4 | 6.0 | 6.1 | 7.6 | 7.7 |
| Ireland | 2.9 | 8.6 | 2.9 | 2.9 | 15.6 | 6.1 | 9.1 |
| Italy | 12.0 | 20.2 | 13.1 | 20.0 | 18.8 | 16.0 | 13.8 |
| Latvia | 3.9 | 6.9 | 7.8 | 7.8 | 5.9 | 9.8 | 6.9 |
| Malta | 9.4 | 9.7 | 9.7 | 9.4 | 6.3 | 8.8 | 12.9 |
| North Macedonia | 3.7 | 3.0 | 1.0 | 3.8 | 2.9 | 2.0 | 3.0 |
| Poland | 11.3 | 11.4 | 7.9 | 9.4 | 21.7 | 13.5 | 12.3 |
| Romania | 13.8 | 14.7 | 17.8 | 12.5 | 21.6 | 9.7 | 23.6 |
| Serbia | 13.8 | 14.6 | 13.0 | 12.0 | 15.2 | 9.8 | 12.6 |
| Slovakia | 16.1 | 3.7 | 3.8 | 10.7 | 7.1 | 4.0 | 11.1 |
| Türkiye | 12.5 | 9.0 | 4.3 | 7.1 | 13.0 | 7.4 | 10.4 |
| Ukraine | 14.4 | 23.1 | 11.5 | 10.6 | 28.8 | 15.4 | 36.9 |
| Uruguay | 0.0 | 3.3 | 0.0 | 3.6 | 20.0 | 3.8 | 10.7 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Fossil-Fuel Exporters** | 18.1 | 15.2 | 15.8 | 22.0 | 24.5 | 17.4 | 19.1 |
| Algeria | 38.0 | 8.2 | 8.5 | 14.3 | 2.2 | 8.0 | 16.3 |
| Azerbaijan | 1.0 | 2.0 | 3.0 | 85.7 | 86.9 | 1.0 | 83.7 |
| Bahrain | 10.0 | 14.0 | 7.1 | 19.3 | 27.3 | 14.0 | 15.4 |
| Brunei Darussalam* | 14.1 | 15.9 | 18.3 | 15.3 | 12.9 | 14.3 | 16.7 |
| Gabon* | 20.0 | 15.4 | 23.1 | 22.7 | 40.0 | 30.4 | 4.8 |
| Iran (Islamic Republic of) | 32.1 | 39.7 | 27.6 | 18.9 | 22.9 | 23.9 | 19.4 |
| Iraq* | 17.9 | 12.2 | 11.4 | 17.2 | 21.8 | 23.5 | 13.1 |
| Kazakhstan | 12.3 | 14.1 | 13.1 | 12.7 | 14.3 | 6.8 | 12.7 |
| Kuwait | 28.0 | 4.5 | 13.0 | 19.0 | 15.8 | 25.0 | 5.6 |
| Oman | 18.7 | 15.9 | 16.2 | 13.7 | 20.3 | 17.6 | 23.0 |
| Qatar | 20.8 | 15.5 | 25.7 | 18.6 | 24.3 | 18.8 | 12.9 |
| Saudi Arabia | 16.1 | 16.7 | 18.2 | 26.1 | 18.6 | 20.7 | 14.6 |
| United Arab Emirates | 19.4 | 30.4 | 19.6 | 22.4 | 25.9 | 25.5 | 25.0 |
| Uzbekistan | 13.6 | 15.0 | 20.7 | 10.9 | 19.3 | 16.4 | 10.0 |
| Venezuela* | 9.7 | 8.8 | 11.8 | 13.0 | 14.5 | 15.2 | 13.4 |
| **Growth Economies** | 11.9 | 14.6 | 11.3 | 14.7 | 15.9 | 13.8 | 13.2 |
| Argentina | 6.4 | 5.3 | 1.4 | 9.0 | 10.4 | 8.8 | 4.9 |
| Armenia | 10.7 | 7.5 | 9.3 | 9.4 | 15.1 | 3.8 | 6.1 |
| Bolivia (Plurinational State of) | 5.3 | 23.7 | 10.5 | 25.0 | 13.9 | 11.8 | 14.7 |
| Botswana | 22.8 | 18.7 | 17.9 | 17.1 | 14.5 | 10.8 | 12.9 |
| Brazil | 8.3 | 10.2 | 11.0 | 13.8 | 17.2 | 9.6 | 12.3 |
| Chile | 8.1 | 6.1 | 9.4 | 11.4 | 16.1 | 3.2 | 3.2 |
| Colombia | 7.9 | 9.4 | 6.0 | 14.1 | 15.3 | 13.1 | 8.5 |
| Costa Rica | 12.0 | 8.6 | 6.0 | 13.1 | 15.0 | 13.6 | 11.1 |
| Dominican Republic | 11.2 | 15.4 | 2.9 | 10.2 | 14.4 | 9.8 | 13.1 |
| Ecuador | 14.8 | 16.1 | 15.3 | 11.8 | 11.8 | 12.9 | 11.9 |
| Egypt | 9.9 | 16.7 | 10.3 | 12.8 | 12.8 | 31.4 | 36.3 |
| El Salvador | 10.1 | 17.6 | 18.6 | 17.1 | 18.8 | 13.0 | 19.0 |
| Georgia | 28.9 | 29.2 | 19.4 | 38.1 | 25.0 | 22.7 | 26.6 |
| Honduras | 8.7 | 9.1 | 4.7 | 12.4 | 12.5 | 10.1 | 8.4 |
| India | 12.7 | 13.2 | 12.4 | 15.5 | 17.3 | 12.2 | 15.4 |
| Indonesia | 15.8 | 29.7 | 30.7 | 28.7 | 32.7 | 27.0 | 16.8 |
| Jamaica | 16.3 | 15.6 | 18.2 | 19.1 | 12.8 | 21.7 | 14.0 |
| Jordan | 8.9 | 9.1 | 4.5 | 9.1 | 6.5 | 4.8 | 17.1 |
| Malaysia | 7.4 | 40.0 | 11.5 | 25.0 | 16.0 | 20.0 | 13.0 |
| Mauritius | 6.3 | 17.4 | 6.7 | 2.3 | 11.6 | 15.2 | 13.6 |
| Mexico | 9.1 | 12.0 | 8.0 | 10.8 | 10.7 | 13.3 | 8.7 |
| Mongolia | 10.6 | 11.1 | 9.4 | 9.1 | 14.3 | 7.7 | 9.4 |
| Morocco | 9.1 | 17.2 | 7.1 | 10.0 | 10.7 | 11.5 | 9.1 |
| Namibia | 17.2 | 19.2 | 26.9 | 18.5 | 35.7 | 25.9 | 24.0 |
| Panama | 8.0 | 12.6 | 7.0 | 14.5 | 16.7 | 14.3 | 7.7 |
| Paraguay | 10.8 | 9.2 | 3.7 | 3.9 | 12.5 | 10.0 | 4.2 |
| Peru | 13.0 | 13.2 | 8.5 | 14.5 | 14.9 | 11.6 | 10.8 |
| Philippines | 24.6 | 8.5 | 19.0 | 18.6 | 15.5 | 18.6 | 12.5 |
| South Africa | 5.2 | 4.4 | 9.1 | 14.3 | 16.7 | 6.0 | 8.8 |
| Thailand | 19.7 | 13.3 | 12.0 | 14.9 | 14.7 | 18.4 | 13.9 |
| Tunisia | 12.5 | 16.9 | 10.3 | 16.5 | 21.1 | 15.8 | 27.9 |
| Viet Nam | 7.1 | 10.5 | 12.8 | 9.5 | 16.8 | 11.6 | 7.7 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Frontier Economies** | 17.2 | 20.9 | 17.1 | 20.4 | 22.4 | 22.2 | 22.3 |
| Angola | 18.4 | 21.6 | 20.2 | 25.2 | 24.0 | 19.2 | 22.1 |
| Bangladesh | 11.8 | 23.7 | 24.0 | 21.1 | 22.4 | 23.7 | 21.3 |
| Cameroon | 13.3 | 14.2 | 7.2 | 16.9 | 7.0 | 16.2 | 21.2 |
| Chad | 9.3 | 84.2 | 63.2 | 62.8 | 72.3 | 71.3 | 74.2 |
| Côte D'Ivoire | 18.8 | 21.8 | 24.7 | 27.0 | 28.0 | 20.9 | 18.1 |
| Democratic Republic of the Congo | 16.7 | 10.7 | 6.9 | 21.4 | 10.0 | 21.4 | 33.3 |
| Ghana | 37.2 | 24.3 | 22.2 | 33.8 | 34.7 | 32.9 | 45.3 |
| Guatemala | 7.3 | 12.5 | 6.8 | 10.3 | 12.2 | 18.1 | 13.0 |
| Kenya | 27.4 | 17.0 | 20.4 | 20.8 | 25.0 | 28.2 | 24.5 |
| Kyrgyzstan | 9.9 | 11.3 | 13.2 | 14.1 | 12.3 | 9.3 | 10.4 |
| Lao PDR | 34.7 | 27.8 | 7.5 | 9.5 | 24.2 | 18.1 | 9.3 |
| Lesotho | 1.1 | 1.1 | 4.3 | 3.3 | 3.3 | 1.1 | 3.3 |
| Malawi | 17.3 | 16.2 | 15.7 | 25.0 | 18.9 | 26.0 | 24.3 |
| Mali | 21.3 | 17.6 | 18.9 | 17.6 | 26.5 | 23.2 | 23.9 |
| Nepal | 12.7 | 11.4 | 11.1 | 8.0 | 14.5 | 7.0 | 9.2 |
| Nigeria | 9.9 | 18.5 | 16.7 | 23.0 | 22.2 | 22.2 | 21.1 |
| Pakistan | 11.8 | 14.4 | 16.5 | 23.1 | 18.6 | 22.9 | 22.8 |
| Rwanda | 21.3 | 21.4 | 11.5 | 22.8 | 23.8 | 16.7 | 14.5 |
| Senegal | 12.9 | 21.4 | 3.6 | 20.7 | 29.6 | 25.0 | 30.4 |
| Sri Lanka | 16.4 | 13.4 | 13.8 | 14.9 | 15.9 | 14.5 | 13.6 |
| United Republic of Tanzania | 13.8 | 24.4 | 19.4 | 24.7 | 20.0 | 24.7 | 19.3 |
| Yemen | 20.0 | 12.5 | 13.0 | 6.1 | 27.1 | 17.8 | 13.0 |
| Zambia | 31.4 | 38.1 | 30.8 | 23.1 | 31.3 | 31.8 | 28.3 |
| Zimbabwe | 17.0 | 21.5 | 17.7 | 13.8 | 14.4 | 20.2 | 18.0 |
| **Green Developers** | 17.3 | 18.3 | 11.8 | 15.4 | 16.8 | 11.3 | 13.2 |
| Germany | 7.1 | 17.5 | 9.7 | 14.1 | 10.8 | 6.5 | 12.1 |
| Japan | 17.0 | 14.4 | 6.9 | 7.5 | 17.0 | 6.9 | 7.7 |
| South Korea | 32.3 | 22.2 | 13.1 | 20.2 | 18.2 | 16.2 | 19.2 |
| United States of America | 13.0 | 18.9 | 17.6 | 19.8 | 21.3 | 15.5 | 13.8 |

Source

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Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

TABLE 6 **Share (%) of executives that have identified job displacement among the top 2 most severe economic equity risks for each green transition area**

In your country, how will the decarbonization and green transition actions impact the economy?

Workers will be displaced

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Inclusive Green Adopters** | 14.5 | 6.2 | 6.7 | 8.2 | 15.4 | 6.2 | 9.3 |
| Australia | 22.4 | 10.7 | 9.9 | 11.0 | 14.6 | 6.2 | 16.0 |
| Austria | 7.8 | 4.2 | 8.0 | 10.5 | 18.3 | 0.9 | 5.8 |
| Belgium | 15.0 | 6.3 | 10.0 | 14.3 | 11.5 | 9.9 | 9.3 |
| Canada | 34.0 | 16.0 | 17.8 | 17.2 | 19.4 | 21.6 | 23.2 |
| Croatia | 3.9 | 1.4 | 2.9 | 6.8 | 15.5 | 2.9 | 5.6 |
| Czechia | 20.3 | 3.0 | 1.4 | 2.8 | 27.0 | 0.0 | 5.9 |
| Denmark | 4.2 | 5.7 | 2.3 | 21.3 | 15.7 | 3.4 | 3.5 |
| Estonia | 28.2 | 4.4 | 7.7 | 3.0 | 16.7 | 4.3 | 9.4 |
| Finland | 2.0 | 6.5 | 4.3 | 4.8 | 15.6 | 0.0 | 2.4 |
| France | 16.7 | 9.0 | 9.0 | 7.5 | 9.1 | 6.0 | 12.3 |
| Iceland | 4.3 | 4.6 | 4.7 | 3.2 | 8.1 | 1.6 | 10.2 |
| Israel | 18.2 | 0.0 | 5.3 | 5.9 | 6.3 | 0.0 | 0.0 |
| Luxembourg | 10.3 | 5.4 | 6.7 | 0.0 | 12.8 | 11.1 | 0.0 |
| Netherlands | 12.0 | 5.1 | 5.1 | 13.6 | 24.1 | 9.2 | 6.5 |
| New Zealand | 29.2 | 14.1 | 12.7 | 15.9 | 25.0 | 17.2 | 24.1 |
| Norway | 18.8 | 3.2 | 6.7 | 11.5 | 14.3 | 11.1 | 10.5 |
| Portugal | 3.2 | 2.3 | 8.0 | 1.1 | 3.4 | 2.4 | 2.5 |
| Singapore | 6.8 | 1.5 | 2.5 | 1.7 | 4.8 | 1.7 | 6.7 |
| Slovenia | 9.1 | 7.4 | 4.4 | 4.5 | 35.3 | 1.7 | 7.6 |
| Spain | 6.0 | 4.8 | 7.8 | 6.3 | 14.3 | 3.4 | 3.5 |
| Sweden | 23.3 | 11.0 | 8.4 | 9.6 | 18.1 | 14.8 | 25.3 |
| Switzerland | 9.5 | 4.9 | 0.0 | 10.6 | 6.3 | 1.7 | 10.0 |
| United Kingdom | 27.6 | 12.3 | 8.5 | 6.8 | 17.9 | 10.5 | 13.7 |
| **Emerging Green Adopters** | 11.4 | 4.2 | 4.9 | 4.3 | 7.8 | 4.5 | 6.7 |
| Albania | 22.7 | 0.0 | 9.1 | 9.5 | 15.0 | 8.7 | 13.6 |
| Bosnia and Herzegovina | 14.9 | 5.0 | 3.3 | 3.3 | 8.5 | 5.2 | 5.2 |
| Bulgaria | 16.8 | 8.7 | 6.9 | 8.9 | 8.7 | 6.7 | 12.1 |
| Cyprus | 4.6 | 6.7 | 4.9 | 4.9 | 5.4 | 3.3 | 7.0 |
| Greece | 12.7 | 4.3 | 3.0 | 5.4 | 4.0 | 1.5 | 3.2 |
| Hungary | 11.6 | 4.4 | 6.3 | 10.4 | 6.1 | 3.0 | 4.6 |
| Ireland | 2.9 | 0.0 | 5.9 | 0.0 | 12.5 | 0.0 | 6.1 |
| Italy | 26.0 | 14.1 | 13.1 | 9.0 | 14.9 | 10.0 | 10.6 |
| Latvia | 2.0 | 5.9 | 3.9 | 2.0 | 9.8 | 5.9 | 12.7 |
| Malta | 0.0 | 0.0 | 3.2 | 0.0 | 3.1 | 5.9 | 9.7 |
| North Macedonia | 3.7 | 7.0 | 3.9 | 4.8 | 2.9 | 2.0 | 5.0 |
| Poland | 14.7 | 2.9 | 2.1 | 4.3 | 12.3 | 6.0 | 7.2 |
| Romania | 18.8 | 6.7 | 4.1 | 8.3 | 12.2 | 4.2 | 2.8 |
| Serbia | 5.3 | 3.4 | 3.3 | 1.1 | 4.3 | 3.3 | 6.9 |
| Slovakia | 3.2 | 0.0 | 3.8 | 0.0 | 10.7 | 8.0 | 0.0 |
| Türkiye | 4.2 | 0.0 | 2.9 | 2.9 | 4.3 | 4.4 | 9.0 |
| Ukraine | 40.4 | 3.8 | 3.8 | 1.9 | 5.8 | 2.9 | 1.9 |
| Uruguay | 0.0 | 3.3 | 3.7 | 0.0 | 0.0 | 0.0 | 3.6 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Fossil-Fuel Exporters** | 14.9 | 8.8 | 7.6 | 13.9 | 13.8 | 13.5 | 16.1 |
| Algeria | 8.0 | 2.0 | 2.1 | 0.0 | 4.3 | 4.0 | 4.1 |
| Azerbaijan | 1.0 | 0.0 | 0.0 | 88.8 | 0.0 | 88.9 | 89.8 |
| Bahrain | 20.0 | 1.8 | 1.8 | 1.8 | 9.1 | 5.3 | 9.6 |
| Brunei Darussalam* | 29.6 | 10.1 | 2.8 | 2.8 | 14.3 | 2.9 | 10.6 |
| Gabon* | 12.0 | 23.1 | 15.4 | 22.7 | 20.0 | 21.7 | 9.5 |
| Iran (Islamic Republic of) | 3.8 | 1.4 | 2.6 | 4.1 | 4.3 | 1.4 | 4.2 |
| Iraq* | 14.7 | 11.0 | 9.1 | 5.7 | 16.1 | 3.7 | 8.3 |
| Kazakhstan | 24.6 | 12.5 | 8.2 | 11.1 | 14.3 | 10.2 | 12.7 |
| Kuwait | 16.0 | 13.6 | 4.3 | 9.5 | 26.3 | 5.0 | 22.2 |
| Oman | 26.7 | 14.5 | 16.2 | 13.7 | 21.6 | 11.8 | 20.3 |
| Qatar | 8.3 | 2.8 | 5.7 | 12.9 | 24.3 | 10.1 | 5.7 |
| Saudi Arabia | 5.4 | 5.6 | 2.3 | 2.3 | 3.5 | 6.1 | 7.3 |
| United Arab Emirates | 21.0 | 16.1 | 25.0 | 17.2 | 15.5 | 18.2 | 15.4 |
| Uzbekistan | 15.2 | 8.3 | 12.1 | 9.1 | 21.1 | 7.3 | 16.0 |
| Venezuela* | 16.7 | 8.8 | 5.9 | 7.2 | 11.6 | 6.1 | 6.0 |
| **Growth Economies** | 9.9 | 5.3 | 6.6 | 7.9 | 9.0 | 5.3 | 8.8 |
| Argentina | 5.1 | 1.3 | 2.7 | 1.5 | 4.5 | 1.5 | 1.6 |
| Armenia | 8.9 | 1.9 | 3.7 | 5.7 | 17.0 | 5.8 | 8.2 |
| Bolivia (Plurinational State of) | 2.6 | 0.0 | 2.6 | 5.6 | 5.6 | 5.9 | 2.9 |
| Botswana | 24.1 | 13.3 | 14.1 | 11.8 | 21.1 | 5.4 | 12.9 |
| Brazil | 17.7 | 11.4 | 12.2 | 18.8 | 15.1 | 11.3 | 20.6 |
| Chile | 5.4 | 0.0 | 6.3 | 14.3 | 6.5 | 6.5 | 3.2 |
| Colombia | 18.0 | 7.1 | 7.1 | 8.2 | 5.9 | 3.6 | 6.1 |
| Costa Rica | 4.8 | 1.2 | 2.4 | 9.5 | 7.5 | 3.7 | 5.6 |
| Dominican Republic | 1.9 | 3.8 | 12.5 | 8.3 | 5.8 | 3.9 | 5.1 |
| Ecuador | 10.2 | 3.4 | 4.7 | 4.7 | 5.9 | 7.1 | 10.7 |
| Egypt | 10.7 | 7.9 | 3.4 | 6.0 | 7.7 | 5.9 | 7.1 |
| El Salvador | 2.9 | 1.5 | 2.9 | 2.9 | 8.7 | 0.0 | 4.8 |
| Georgia | 9.2 | 3.1 | 6.0 | 3.2 | 4.7 | 4.5 | 4.7 |
| Honduras | 7.6 | 3.4 | 8.2 | 13.5 | 11.4 | 4.5 | 8.4 |
| India | 13.4 | 10.4 | 6.7 | 10.2 | 8.1 | 11.5 | 7.9 |
| Indonesia | 15.8 | 5.9 | 9.9 | 5.9 | 9.9 | 8.0 | 22.8 |
| Jamaica | 14.3 | 4.4 | 0.0 | 10.6 | 6.4 | 4.3 | 11.6 |
| Jordan | 4.4 | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 | 0.0 |
| Malaysia | 11.1 | 12.0 | 7.7 | 8.3 | 16.0 | 8.0 | 17.4 |
| Mauritius | 0.0 | 0.0 | 6.7 | 9.1 | 4.7 | 0.0 | 11.4 |
| Mexico | 2.6 | 0.0 | 1.3 | 5.4 | 4.0 | 0.0 | 0.0 |
| Mongolia | 4.5 | 1.6 | 1.6 | 7.6 | 3.2 | 1.5 | 0.0 |
| Morocco | 9.1 | 6.9 | 10.7 | 10.0 | 7.1 | 15.4 | 13.6 |
| Namibia | 6.9 | 15.4 | 3.8 | 3.7 | 14.3 | 0.0 | 16.0 |
| Panama | 6.8 | 1.1 | 5.8 | 7.2 | 3.8 | 0.0 | 3.8 |
| Paraguay | 7.2 | 0.0 | 2.5 | 9.2 | 4.2 | 4.3 | 2.8 |
| Peru | 5.8 | 7.4 | 7.0 | 11.6 | 11.9 | 10.1 | 10.8 |
| Philippines | 14.8 | 5.1 | 12.1 | 8.5 | 12.1 | 8.5 | 23.2 |
| South Africa | 47.4 | 27.5 | 20.5 | 13.1 | 23.8 | 14.5 | 12.5 |
| Thailand | 5.3 | 2.7 | 9.3 | 1.4 | 12.0 | 5.3 | 5.6 |
| Tunisia | 5.0 | 3.9 | 6.4 | 6.3 | 5.3 | 3.9 | 5.9 |
| Viet Nam | 12.2 | 6.3 | 9.6 | 11.6 | 11.6 | 6.3 | 13.2 |

| | Transitioning away from fossil fuels | Scaling up low-carbon energy sources | Greening transportation and mobility | Greening heavy industry | Greening agriculture and food production | Greening infrastructure and built environment | Moving to a circular economy |
|---|---|---|---|---|---|---|---|
| **Frontier Economies** | 19.7 | 9.8 | 11.5 | 11.5 | 12.6 | 10.2 | 11.8 |
| Angola | 17.6 | 11.2 | 8.1 | 9.4 | 11.6 | 9.2 | 12.4 |
| Bangladesh | 7.9 | 9.2 | 6.7 | 9.2 | 11.8 | 9.2 | 9.3 |
| Cameroon | 25.8 | 13.3 | 20.0 | 22.0 | 11.3 | 10.5 | 8.1 |
| Chad | 32.7 | 2.1 | 0.0 | 1.1 | 4.3 | 3.2 | 1.1 |
| Côte D'Ivoire | 23.2 | 11.2 | 10.7 | 14.4 | 10.9 | 12.8 | 12.9 |
| Democratic Republic of the Congo | 30.0 | 10.7 | 17.2 | 14.3 | 13.3 | 14.3 | 11.1 |
| Ghana | 39.7 | 9.5 | 27.8 | 8.5 | 25.0 | 17.1 | 20.3 |
| Guatemala | 9.8 | 4.2 | 5.4 | 9.0 | 8.1 | 4.2 | 4.3 |
| Kenya | 16.2 | 5.4 | 5.6 | 10.4 | 10.7 | 6.4 | 15.7 |
| Kyrgyzstan | 32.1 | 13.8 | 14.5 | 10.3 | 12.3 | 12.0 | 6.0 |
| Lao PDR | 7.4 | 4.4 | 2.2 | 2.1 | 2.2 | 4.3 | 3.5 |
| Lesotho | 0.0 | 1.1 | 0.0 | 0.0 | 1.1 | 0.0 | 1.1 |
| Malawi | 32.0 | 23.0 | 22.9 | 29.2 | 29.7 | 26.0 | 24.3 |
| Mali | 45.3 | 28.4 | 32.4 | 32.4 | 19.1 | 21.7 | 26.8 |
| Nepal | 10.1 | 8.6 | 11.1 | 9.3 | 10.5 | 14.1 | 10.5 |
| Nigeria | 23.9 | 16.9 | 18.2 | 14.8 | 27.0 | 11.1 | 12.3 |
| Pakistan | 11.0 | 6.8 | 5.8 | 8.5 | 12.7 | 5.9 | 8.9 |
| Rwanda | 6.7 | 2.4 | 5.1 | 6.3 | 10.0 | 5.1 | 9.2 |
| Senegal | 6.5 | 7.1 | 3.6 | 3.4 | 0.0 | 7.1 | 4.3 |
| Sri Lanka | 3.0 | 0.0 | 4.6 | 9.0 | 12.7 | 6.5 | 1.7 |
| United Republic of Tanzania | 25.5 | 13.3 | 18.3 | 19.1 | 17.8 | 14.6 | 22.9 |
| Yemen | 20.0 | 8.3 | 13.0 | 10.2 | 12.5 | 8.9 | 23.9 |
| Zambia | 21.4 | 14.3 | 12.3 | 18.5 | 17.9 | 15.2 | 15.0 |
| Zimbabwe | 25.0 | 10.8 | 11.5 | 5.3 | 10.3 | 5.3 | 18.0 |
| **Green Developers** | 13.3 | 4.5 | 7.0 | 5.7 | 10.1 | 6.7 | 9.2 |
| Germany | 20.2 | 6.2 | 9.7 | 7.6 | 20.4 | 8.7 | 8.8 |
| Japan | 4.5 | 1.0 | 1.0 | 0.9 | 3.8 | 2.0 | 6.7 |
| South Korea | 7.1 | 2.0 | 5.1 | 2.0 | 4.0 | 3.0 | 2.0 |
| United States of America | 21.5 | 9.0 | 12.2 | 12.2 | 12.2 | 13.2 | 19.3 |

Source

World Economic Forum Executive Opinion Survey 2024.

Notes

* Brunei Darussalam, Gabon, Iraq and Venezuela were included as Fossil-Fuel Exporters in light of OPEC or OPEC-plus membership.

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# Endnotes


1. World Meteorological Organization (WMO), Climate change indicators reached record levels in 2023: WMO [Press release], 19 March 2024, https://wmo.int/news/media-centre/climate-change-indicators-reached-record-levels-2023-wmo#:~:text=The%20WMO%20report%20confirmed%20that,ten%2Dyear%20period%20on%20record.
2. UN Environment Programme (UNEP), Emissions Gap Report 2024, 2024, https://www.unep.org/resources/emissions-gap-report-2024.
3. International Labour Organization (ILO), Leveraging NDCs as a vehicle of a just transition in ambitious climate action, 2024, https://www.ilo.org/media/584736/download#:~:text=The%20next%20round%20of%20Nationally,a%20vehicle%20of%20sustainable%20development.
4. Hasfauther, Zeke, "State of the climate: 2024 now very likely to be warmest year on record", Carbon Brief, 24 July 2024, https://www.carbonbrief.org/state-of-the-climate-2024-now-very-likely-to-be-warmest-year-on-record/.
5. World Meteorological Organization (WMO), UN Secretary-General issues call to action on extreme heat [Press release], 25 July 2024, https://wmo.int/media/news/un-secretary-general-issues-call-action-extreme-heat-0.
6. Kotz, Maximillian, Anders Levermann and Leonie Wenz, "The economic commitment of climate change", Nature 628, 2024, pp. 551–557, https://www.nature.com/articles/s41586-024-07219-0.
7. World Bank, Poverty, Prosperity, and Planet Report 2024: Pathways Out of the Polycrisis, 2024, Washington, DC: World Bank. http://hdl.handle.net/10986/42211.See ND-GAIN, Notre Dame Global Adaptation Initiative, https://gain.nd.edu/our-work/country-index/rankings/.
8. Hallegatte et al., 2016; Birkmann et al., 2022; Triyana et al., 2024)
9. Bolton, P., A. Kleinnijenhuis and J. Zettelmeyer, J., The economic case for climate finance at scale, Bruegel Policy Brief No. 09/2024, Bruegel, 2024.
10. World Economic Forum, Accelerating an Equitable Transition: A Framework for Economic Equity, 2024.
11. World Economic Forum, Accelerating an Equitable Transition: A Data-Driven Approach, 2024.
12. In 2024, the survey collected responses of over 11,000 executives across 123 countries, including 116 that were clustered into the six archetypes. Brunei Darussalam, Gabon, Iraq and Venezuela were categorized as "fossil-fuel exporters throughout the analysis in this paper". While data gaps do not allow to formally classify these countries in any archetype, they were manually classified as "fossil-fuel exporters" on the basis of their OPEC or OPEC-plus membership.
13. Full country-level data is available in the Appendix.
14. Howlett, Michael, "The criteria for effective policy design: character and context in policy instrument choice", Journal of Asian Public Policy 11(3), 2017, pp. 245-246.
15. Montfort, Simon, Lukas Fesenfeld, Isabelle Stadelmann-Steffen and Karin Ingold, "Policy sequencing can increase public support for ambitious climate policy", Policy and Society 42(4), 2023, pp. 454-477.
16. Gancheva, Mariya, Berkay Akbaba, Matthew Geraci, et al, Policy Instruments to Tackle Social Inequalities Related to Climate Change, European Parliament Policy Department for Economic, Scientific and Quality of Life Policies Directorate-General for Internal Policies, 2023.
17. For 2020 country-by-country NDCs, see: https://www.ituc-csi.org/scorecards-ndcs.
18. Organisation of Economic Co-operation and Development (OECD) Net Zero+ : Climate and Economic Resilience in a Changing World, 2023.
19. World Resources Institute (WRI), Germany's "Coal Commission": Guiding an Inclusive Coal Phase-Out, 1 April 2021, https://www.wri.org/update/germanys-coal-commission-guiding-inclusive-coal-phase-out.
20. McCulloch, Neil, Davide Natalini, Naomi Hossain and Patricia Justino, "An exploration of the association between fuel subsidies and fuel riot", World Development 157, 2022, https://www.sciencedirect.com/science/article/pii/S0305750X22001255.
21. United Nations Development Programmme (UNDP), Fossil Fuel Subsidy Reforms: Lessons and Opportunities, 2021, https://www.undp.org/sites/g/files/zskgke326/files/2021-10/UNDP-Fossil-Fuel-Subsidy-Reforms-Lessons-and-Opportunities.pdf.
22. Indonesia's Effort to Phase Out and Rationalise its Fossil-Fuel Subsidies: A Report on the G20 Peer-Review of Inefficient Fossil-Fuel Subsidies that Encourage Wasteful Consumption in Indonesia, 2019, prepared by the members of the Peer-Review Team: China, Germany, Italy, Mexico, New Zealand, World Bank, IEA, IISD-GSI, GIZ Indonesia and the OECD, https://www.mase.gov.it/sites/default/files/archivio/allegati/economia_ambientale/indonesia_g20_peer_review_ffs.pdf.
23. Data Terpadu Kesejahteraan Sosial.
24. For more details, see: https://www.who.int/teams/environment-climate-change-and-health/healthy-urban-environments/transport/health-risks.
25. McNamara, Marie, Understanding California's Advanced Clean Cars II Regulation, RMI, 13 June 2023, https://rmi.org/understanding-californias-advanced-clean-cars-ii-regulation/.

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