G-20 Zero-Carbon Policy Scoreboard 2022

Executive summary

March 29, 2022



Bloomberg NEF

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75%

Average score for EU member states and U.K.

52%

Average score for other OECD countries

36%

Average score for non-OECD countries The COP26 climate conference in Glasgow produced a surfeit of new, national long-term decarbonization promises and pronouncements. As a result, 2021 ended with over half the Group-of-20 countries having committed to more ambitious 2030 emissions goals. And all have at least kicked off discussions around setting net-zero pledges. This second annual BNEF Policy Scoreboard evaluates and ranks the policy regimes of each G-20 country. It both highlights governments that have progressed most and those that clearly need to put their noses closer to the grindstone.

- While G-20 governments made unprecedented promises in 2021, none has implemented sufficient policies to plausibly achieve deep decarbonization, though some are closer than others. The power sector has made most progress, with an average 60% score. Nations with net-zero targets still need to tackle industry (45%) and low-carbon fuels (44%).
- G-20 countries fell into three broad categories: the first comprises EU member states, Germany, France and Italy, along with the U.K., which improved their average total scores by 3 points compared with 2021 (based on a 0-100% scale). But with a mean of 75% among them, even the top performers have room to improve.
- Other OECD countries did not fare as well, notably Australia, Japan and Turkey. As a result, this group saw their total score decline 2 points, to average of 52% – 25 points below the previous group.
- At the other end of the G-20 table, emerging economies lag in their domestic policy roll-outs, with an average total score of 36%. Still, this group did improve from last year by an average of 2 points led by India and South Africa.

Figure 1: Total 2022 scores broken down into three categories



Source: BloombergNEF. Note: Each country's total score is weighted by each sector's share of national greenhouse-gas emissions.

• The Scoreboard examines six major areas policy makers can address when seeking to limit CO2 emissions: the power sector, low-carbon fuels and carbon capture, utilization and storage technologies, transport, buildings, industry and the circular economy. This year's report also contains a section examining trade and cross-border emissions.

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- In **power**, over the past year most G-20 members have committed to bolder interim targets to adopt renewables to align with net-zero goals for 2050. However, these vary widely in ambition: countries like the U.S. and Japan are some way from achieving their clean power goals, while Australia met its 2030 target a decade early.
- Competitive-bidding processes continue to drive power-sector decarbonization, with a further 26% increase in global renewables auctioned capacity in 2021. Auction design is becoming more diverse: European governments are considering a "subsidy-free" design while India and South Africa have introduced a range of innovative set-ups to add energy storage.
- In terms of policies related to low-carbon fuels and CCUS, 11 G-20 countries have released national low-carbon hydrogen strategies and another six are in the works. But Germany, the U.K. and France are closest to implementing concrete incentives (eg, contracts for difference) to scale up clean hydrogen production.
- Six G-20 countries have released CCUS strategies and most have rolled out funding. But the
 U.S. dwarfs the rest in terms of spending, with the Infrastructure Investment and Jobs Act
 allocating over \$11 billion. Other governments (eg, the EU, Canada) are also seeking to
 replicate the U.S.'s 45Q federal tax credit.
- The three EU nations speed ahead for **road transport** policy driven by generous Covid-19 stimulus packages and tough fuel economy targets. As a result, passenger electric vehicle sales in 2021 were 4-6 times 2019 levels. The U.K. might have come closer to the top three if the government had not implemented multiple unexpected reductions in support.
- Despite doubling electric EV sales in 2021, the U.S. only achieved a 4% share of the
 passenger car market versus 10% globally. Its score would have risen more if the new fuel
 economy targets were in force, purchase subsidies for the two biggest manufacturers had not
 expired and the Build Back Better bill (which would extend the EV tax credit) had passed.
- Few G-20 countries have comprehensive plans to decarbonize **buildings** and performance on targets has been sketchy. Japan and the U.K. issued new roadmaps in 2021 and both will both need to roll out more support, to achieve their targets for zero-energy buildings and heat pumps, respectively.
- Many G-20 governments in Europe and Asia included energy efficiency and low-carbon heating in their Covid-19 stimulus packages. But even the most effective of these programs like Italy's 'superbonus' scheme encountered challenges, with too much red tape, funding delays, a lack of trained workers and fraud.
- **Industrial** heat decarbonization is a more nascent challenge for policy makers than energy or transport. The pathways to lower emissions for each sector are still undefined, making it difficult for countries to provide direct subsidies to accelerate technology deployment. As a result, broad incentives and mandates are the standard.
- Most countries are still at the stage of setting targets and funding pilot projects, often involving clusters. Policy makers can create demand for green products by setting emission standards for industrial products to be procured by governments – significant purchasers of infrastructure materials. But few such policies have been implemented to date.

A lack of policy progress means that the average for circular economy rose only 1
percentage point – the least of all sectors in this report. This year's best performers remain
South Korea and Japan, although the U.K. and EU member states are closing in.

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- As well as the basic incentives like recycling targets and landfill taxes, these countries implemented the most ambitious mandates. And the policies in place are stable and well communicated to the public, and regulations are enforced consistently.
- The energy transition is spilling over borders: nowhere is this clearer than with trade as some rich countries hone in on emissions linked to imported goods. For at least half of the G-20, the emissions embodied in their imports are higher than those produced domestically. And some of these governments are looking at regulating emissions linked to imports.
- This year's Scoreboard takes account of a number of cross-sector policies and regulations: the EU member states, followed by the U.K., have implemented the highest number of robust policies to force financial institutions and companies to consider environmental, social and governance implications when making investment decisions. They average 8 out of 10.
- A growing number of G-20 governments has implemented regulations to force financial institutions and companies to consider environmental, social and governance implications when making investment decisions. Some 369 new sustainable finance and corporate sustainability regulations were issued globally between 2011 and August 2021 compared with 167 over 2000-10.
- The EU member states, followed by the U.K., have implemented the highest number of robust policies on sustainable finance and ESG disclosure. At the other end of the spectrum, Saudi Arabia has no ESG reporting guidelines or sustainable finance framework, and one voluntary corporate governance regulation.
- The G-20 still provides \$600 billion annually in support to fossil fuels, based on BNEF analysis. Some governments have committed to cut this but efforts have lacked punch. The war in Ukraine – and accompanying high fuel prices – could make withdrawing supports enjoyed by end-consumers more challenging. But 40% of the total still goes to producers.
- A total of 13 G-20 countries have nationwide prices on emissions, while the U.S. has two state programs. However, these programs vary considerably in impact: in general, European countries have higher carbon prices (\$67-115 per metric ton) covering a higher share of emissions and offering fewer concessions.
- This is an excerpt from the G-20 Zero-Carbon Policy Scoreboard Issue 2022. The full report is available to clients on BNEF.com and the Bloomberg Terminal.

The 19 individual countries of the G-20 (the EU is the 20th member) covered in this report have been scored out of 100% based on 122 qualitative and quantitative metrics covering which types of policy have been implemented in each sector, including by state or provincial governments for the U.S. and Canada, and by the EU for the bloc's member states. Each country's policy mix in each sector was also assessed based on the transparency and predictability of the policy-making process, completeness, ambition and achievability of targets, and impact. Other quantitative metrics were used to evaluate whether policies are having an effect in practice – such a rise in sales of electric vehicles or heat pumps, and share of renewables in a country's total electricity generation.

Key findings on country scores and trends are below, by sector.

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Power

- The G-20 scored on average 60% in the power sector up from 58% in 2021. Germany and the U.K. have cemented their lead, with a slight increase in their scores. Changes included the U.K.'s tougher clean power and offshore wind targets and reincluding onshore wind and solar PV in its auction program, and Germany's proposal to scrap gas power.
- The middle of the ranking saw much more movement: of the two countries that most improved their scores, Canada boosted support for energy storage, further reduced coal-fired generating capacity, and has none in the pipeline. South Africa's renewables auction program is at last back on track, with other tenders being held to procure flexible capacity.
- However, the bottom-ranking countries have not made much progress. Australia and Turkey took the biggest tumble mainly due to rising greenhouse-gas emissions, coal fleet expansion plans, and unambitious renewables and fossil-fuel policies.
- In the last year, most G-20 members have committed to bolder interim clean power targets to align with their net-zero goals for 2050. However, these vary widely in ambition: countries like China, Canada and France are already close to achieving these goals, while Australia met its 2030 target a decade early.
- In contrast, the U.S., Japan and the U.K. have considerable ground to cover to achieve their goals, suggesting more policy support will be required. And some nations' commitments border on the unrealistic: based on current installation rates, Saudi Arabia would need 100 years to reach its 2030 capacity target.
- Auction schemes continue to drive renewables deployment worldwide, with a further 86GW contracted in 2021. However, the G-20 were somewhat of a mixed bag: while South Africa and Brazil revived their programs, Argentina's scheme is on hold due to grid issues and Mexico officially scrapped its scheme.
- Policy makers are devising new auction types: European governments are exploring "subsidy-free" designs where the price guarantee awarded is meant to provide revenue stability rather than subsidy support. India has seen a range of innovative set-ups to strike a balance between growing the share of renewables and managing their intermittency.



Source: BloombergNEF. Note: Unweighted scores. Where possible, the 2021 scores have been recalculated using the 2022 methodology and may differ from those in the published 2021 report.

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- Some 13 G-20 nations have implemented energy storage support, although half are only at a regional level. The most common types of incentive are complex auctions such as in India and capacity mechanisms. However, the latter tend to compensate existing, unprofitable and potentially carbon-intensive power plants, as seen in South Africa's 'risk mitigation' tender.
- Six G-20 countries have committed to phase out coal-fired power, two have begun official discussions and another has no coal in the electricity mix. In addition, France is the only G-20 member to ban the new build of natural gas power plants, while Germany is discussing a 2045 phase-out of gas-fired generation.
- There are barriers to rapid growth of clean electricity across all G-20 nations, ranging from technology-specific challenges to wider power market design issues. The most common challenges are lack of transparency, permitting, land availability or public opposition, local content requirements and outdated power market design.

Low-carbon fuels and carbon capture, use and storage

- Germany takes the top spot for policies to promote clean hydrogen, biofuels and CCUS. But the U.K. has most improved its score, rising six places. Both perform well on hydrogen and the U.K. on CCUS. Their policies are also starting to bear fruit: Germany is second only to China for electrolyzer capacity, while the U.K. has the second-biggest pipeline for carboncapture projects and the largest for hydrogen production with CCUS.
- The U.S. is a world leader for biofuels but the national Renewable Fuel Standard has had a turbulent year and the federal government has yet to release a hydrogen strategy. It performs better on CCUS, with the most direct government funding and effective 45Q tax credit.
- A total of 11 G-20 countries have released national low-carbon hydrogen strategies and another six are in the works. Russia and the U.K. issued plans in 2021, indicating they intend to take a twin-track approach of blue and green hydrogen and build clusters to save costs. The plan India published in 1Q 2022 lacks detail on targets and financial incentives.
- China's national hydrogen strategy was also underwhelming, with no new subsidies and an unambitious green production target. Still, a market for low-carbon H2 has begun to emerge due to support from provincial governments, and investment from state-owned enterprises and the private sector. As a result, China has the most online electrolyzer capacity.



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The volume of direct government funding for low-carbon hydrogen has surged in the last year, with over \$100 billion available worldwide up to 2030. The G-20 account for around 60% of this sum: the U.S. tops the chart, with at least \$9.5 billion in the Infrastructure Investment and Jobs Act. When compared relative to GDP, it loses out to most of the G-20.

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- European nations have made most progress in devising concrete, sustainable incentives to spur mass roll-out of low-carbon hydrogen production. France plans to hold tenders to award capex grants, and the EU, U.K. and Germany are exploring contracts for difference. The U.S. Build Back Better bill, still in legislative limbo, currently includes a production tax credit.
- All of the G-20 countries with plans to use CCUS to reach their climate goals have released a strategy for the technology, and many have rolled out some funding. Japan issued an update on its plan, with new cost-reduction targets, and the U.K. released a roadmap for establishing a supply chain. Canada's federal government is due to release its CCUS strategy in 2022.
- The U.S. is CCUS policy leader: it offers the most direct funding, with the Infrastructure Investment and Jobs Act allocating over \$11 billion specifically for CCUS. The federal 45Q tax credit continues to drive CCUS roll-out but it would have been further improved if the Build Back Better bill (as it was drafted at end-2021) had passed.
- Around three-quarters of the G-20 countries have biofuel blending mandates. However, these
 have had a mixed bag of a year: governments including the U.S., Brazil, Indonesia and
 Argentina have weakened their targets on the grounds of feedstock prices and lower demand
 due to the pandemic.
- In contrast, the U.K. has improved its low-carbon fuel standard and Canada is due to kick off
 its ambitious program at end-2022. In 2021, India brought forward its ethanol blending target
 by five years to 2025. This may be a stretch although the government has expanded financial
 support and surcharge on unblended fuel begins in 4Q 2022.

Road transport

- The three EU member states rank highest for road transport policy: rising 9 percentage points, France took top spot from Germany, which still increased its score 5 points. But it was Italy that scaled the biggest increase out of all G-20 countries, at 16 points.
- The three have a combination of policy carrots (in the form of purchase subsidies) and sticks (as fuel economy targets), as well as support for charging infrastructure. They also all included significant electric vehicle support in their Covid-19 recovery packages. As a result, EV sales in 2021 were 4-6 times their 2019 volumes.
- Covid-19 stimulus funding also helped the U.K. to double sales of EVs in 2021, accounting for a fifth of passenger vehicle sales – the second-highest share of the G-20 countries. But it lost points after the government implemented multiple unexpected cuts in support.
- China slipped to fifth position in this year's ranking. Buoyant sales growth in 2021 meant it
 reclaimed the title for biggest EV market from Europe. However, its stimulus support for
 electrified transport was less substantial than the top four countries. While it has policies on
 the demand and supply side, automakers' targets have been relatively lenient.
- The U.S. climbed 9 percentage points to 63%, having doubled EV sales in 2021 and passed the Infrastructure Investment and Jobs Act, which included \$7.5 billion in charging support. But EVs still only comprise 4% of passenger vehicle sales versus the 10% global average.
- Tough fuel economy targets remain a key driver of EV sales. Proposed changes to the EU's CO2 reduction goals for passenger cars would rapidly accelerate EV adoption and mean zero tailpipe CO2 emissions from new passenger cars and vans by 2035.

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- In the U.S. the Biden administration unveiled initial proposed Corporate Average Fuel Economy targets, calling for annual fleet efficiency increases of 8% for model years 2024-26. This compares with the 1.5% annual improvements under the Trump-era regulation.
- The U.S. score would have been higher if these proposed fuel economy targets had been in place, if purchase incentives had not expired for the two biggest manufacturers, and the Build Back Better bill (which would extend the EV tax credit) had passed.
- Some G-20 governments included charging support in their Covid-19 stimulus packages.
 However, the global rate of global public charging deployment slowed in 2021, as fewer slow chargers but more fast chargers were rolled out.
- The G-20 leaders for public charging network growth and number of connectors per population are China, South Korea, Italy, Germany, France and the U.K. This is partly due to government support and partly because some countries (eg, China and South Korea) have a higher prevalence of apartment buildings and less access to home charging.
- Public charging networks in countries such as Australia, India and Japan have seen less investment due to the lower uptake of EVs, which has led to slower network growth.
- In 2021, several G-20 countries, including Canada, Italy and the U.K., made new or tougher pledges to scrap sales of internal combustion vehicles. By year-end, countries with an ICE phase-out goal accounted for almost a fifth of 2020 global passenger vehicle sales. This includes the EU-wide target. Without this, only a tenth of the global car market is covered.
- China and the U.S. are key G-20 countries without an ICE phase-out target but they do have interim goals that play a crucial role in accelerating EV adoption. Combined national interim and ICE phase-out targets cover nearly 41% of the passenger vehicle market – up from just 8% in 2019.

Figure 7: Road transport – 2022 scores



Germany 83% France 89% Germany Francé 80% Italý U.K. China 79% South Korea 72% 71% China ÜK Canada 71% South Korea 70% 70% 68% Japan Canada 68% Italy U.S 63% 54% US Japan 62% India 51% India 58% Mexico 41% Mexico 51% 33% 33% Indonesia Turkey 33% South Africa Argentina 33% 33% 33% Australia 30% Aŭstralia 29% Argentina Brazil 29% South Africa Brazil 29% 27% Indonesia 24% Turkey Saudi Arabia Russia 24% Russia 22% 15% Saudi Arabia 14% 100% 0% 0% 100%

Source: BloombergNEF. Note: Unweighted scores. Where possible, the 2021 scores have been recalculated using the 2022 methodology and may differ from those in the 2021 report.

Buildings

 The EU member states top this year's ranking for policies to decarbonize the buildings sector. This is due to a combination of regulations covering new and existing buildings, CO2 pricing on heating fuel, and financial incentives targeted at a range of low-carbon solutions. Both have implemented, or are considering, some kind of fossil-fuel boiler ban.

 Few G-20 countries have comprehensive plans to decarbonize buildings and performance on targets has been sketchy. Japan and the U.K. issued new roadmaps in 2021 and both will both need to roll out more support, to achieve their targets for zero-energy buildings and heat pumps, respectively.

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- India is one of the few countries with a warm climate to have released a cooling action plan, although even the latest update, released in 2021, still lacks detail on how the commitments will be realized. Brazil, Mexico and South Africa have cooling plans under development.
- Like EVs, energy efficiency and heat pumps were often included in Covid-19 stimulus packages, as they can be quick to roll out and create jobs. Italy, for example, saw success with its 'superbonus' scheme offering a 110% tax rebate on the cost of upgrades. The program added an estimated 0.7% to Italy's GDP in 2021 and generated 150,000 jobs.
- However, even the countries that scored best for buildings policies experienced first hand the challenges of implementing an effective buildings-decarbonization program. The U.K. Green Homes Grant was a case in point: not only were there practical problems with onerous red tape and a lack of trained workers, but the government cut the budget significantly without warning before scrapping the program – a year earlier than planned.
- In the U.S., the stalled Build Back Better bill includes several measures for buildings decarbonization: it extends and improves the tax credits for residential energy efficiency and builders of efficient homes, both of which expired at end-2021. In addition, it includes over \$16 billion of dedicated funding.

Figure 9: Buildings – 2022 scores

Figure 8: Buildings – 2021 scores



Source: BloombergNEF. Note: Unweighted scores. Where possible, the 2021 scores have been recalculated using the 2022 methodology and may differ from those in the 2021 report.

- On top of financial and fiscal incentives, governments are increasingly turning to regulations and mandates, although these tend to apply to new buildings only. Changes to the EU's Energy Performance for Buildings Directive, proposed at end-2021, would implement even more ambitious regulations and targets. But even these would not be bold enough.
- Government and companies are announcing new projects for using clean hydrogen for buildings, despite poor economics. Most relate to blending hydrogen in the gas grid to extend its lifetime, although even a relatively high blend would not really help cut emissions. The EU, U.K. and Canadian provinces have begun to consider the rules for hydrogen infrastructure.

 A ban on fossil-fuel heating in all buildings would force the shift to low-carbon technologies, but would bring political, economic, social and practical challenges. The EU member states lead the G-20: France's new environmental regulations ban oil-fired boilers and impose maximum carbon emission thresholds, which effectively prohibit gas-only boilers for certain new homes. In Germany, oil-fired boilers may not be installed in new homes from 2026.

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 Subnational bans have been introduced in China, Canada and the U.S. But this has also prompted some U.S. states to implement regulations prohibiting local gas bans.

Industry

- Most G-20 countries boosted their score for industrial decarbonization policies. But the sector still has the lowest average – at 45% compared with 60% for power and 52% for transport, for example. This reflects the significant need for more policy support to cut industrial emissions in line with net zero.
- Germany, the U.K., France and South Korea retained spots in the top five for industry, thanks to detailed decarbonization strategies and some incentives to ensure implementation, including carbon pricing.
- China has dropped out of the top five for industry because it has allowed some key programs to expire (such as energy-efficiency mandate on companies) and has yet to introduce sufficient national-level concrete incentives to achieve its ambitious targets.

Figure 11: Industry – 2022 scores

 However, the U.S. significantly boosted its score, partly due to new federal funding announced for industrial clusters using hydrogen and CCUS. In addition, the country has increased use of renewables for industry and reduced energy intensity.



Figure 10: Industry – 2021 scores

Source: BloombergNEF. Note: Unweighted scores. Where possible, the 2021 scores have been recalculated using the 2022 methodology and may differ from those in the published 2021 report.

- Industrial heat decarbonization is a more nascent challenge for policy makers than energy or transport. The pathways to lower emissions for each sector are still undefined, making it difficult for countries to provide direct subsidies to accelerate technology deployment. As a result, broad incentives and mandates are the standard.
- Most countries are still at the stage of setting targets and funding pilot projects, often involving clusters. For example, some of the funding included in the U.S.'s Infrastructure

Investment and Jobs Act will be spent on hydrogen and CCUS demonstration projects in industrial plants. The U.K. announced in 2021 four industrial hubs that will use CCS.

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- Policy makers can create demand for green products by setting emission standards for industrial products to be procured by governments – significant purchasers of infrastructure materials. But few such policies have been implemented to date.
- The largest such initiative was launched at COP26, where the U.K., India, Germany and Canada agreed to push for governments to buy low-carbon steel and cement. The initiative will take time to implement and the participants only account for 9-10% of global steel and cement use.
- China has repurposed its capacity swap scheme to favor clean production for steel and aluminum, such as electric arc furnaces and hydrogen. As a result, nearly half of the new steelmaking capacity announced in 2021 will comprise electric arc furnaces.

Circular economy

- This year's best performers remain South Korea and Japan, although the U.K. and EU
 member states are closing in. As well as the basic incentives like recycling targets and landfill
 taxes, these countries implemented the most ambitious mandates. And the policies in place
 are stable and well communicated to the public, and regulations are enforced consistently.
- Japan and South Korea have pay-as-you-throw schemes, which decrease municipal solid waste generation and boost recovery and recycling rates. But they can be difficult to implement. The European countries have favored recycled content mandates, which can encourage circularity throughout the supply chain.
- The top performers also tend to have higher landfill taxes, which seems to correlate with countries that have cut waste-related emissions in recent years. The exceptions to this trend was Italy, which has a strong composting program, and Germany, which has banned landfilling untreated waste.



Figure 12: Circular economy – 2021 scores

Figure 13: Circular economy – 2022 scores

Source: BloombergNEF. Note: Unweighted scores. Where possible, the 2021 scores have been recalculated using the 2022 methodology and may differ from those in the 2021 report.

However, the gap is growing between the top six countries and the rest of the G-20, which are stuck on a plateau of underperformance for a range of reasons. The 'not now, but later'

group, which includes China and Saudi Arabia, only have the basic policy types in place, with little coordination or enforcement.

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- The 'national strategy and done' group, which contains the Latin American countries, have a
 national circular economy strategy. But they lack the concrete incentives needed for
 implementation and also face gridlock between federal and local authorities, which tend to
 oversee waste policies.
- This group also includes the U.S., which has fallen behind other Group-of-Seven members. The last 18 months have seen various failed attempts to implement federal-level policy. Last year ended with the Environmental Protection Agency releasing the first ever national recycling strategy, including a target to increase recycling to 50% by 2030.
- The last 'lax policy or weak implementation' group has some circular economy policies but they are weak and ineffective. For example, Russia and Turkey have packaging taxes on a par with the top-scoring G-20 countries, but less than a fifth of municipal solid waste is treated.

Trade and cross-border emissions

Each issue of the Policy Scoreboard includes a section examining an area or issue playing a key role in the decarbonization debate. It is not included in the G-20 countries' scoring. This year's report focuses on trade, carbon leakage and implications for the energy transition.

- For at least half of the G-20, the emissions embodied in their imports are higher than those produced domestically. And some of these governments are looking at regulating emissions linked to imports.
- Indeed, the issue of carbon tariffs has sparked much debate in the last year. The EU has the most advanced scheme on the table: its proposal for a carbon border adjustment mechanism was released in August 2021 but must still be approved. The aim is to enable tough climate policies to be introduced without the risk that companies move to other markets.
- The precise mechanics of the scheme are yet to be defined. But a CBAM at a carbon price of \$100 per metric ton could allow European basic oxygen furnaces – the most widespread steelmaking technology – to compete with equivalent facilities in North America and China.
- Countries have varied in their response to the EU proposal: Brazil, India, China and South Africa have been critical. Turkey and Indonesia appear to be accelerating carbon-pricing plans of their own as a potential counter to the CBAM.
- Russia, in particular, has shifted its focus since the CBAM announcement, with a new climate-neutrality target, green taxonomy and regional carbon-pricing pilot. Although scant on details, a new hydrogen strategy alluded to the need to protection domestic industry from potential carbon tariffs.
- For now, the CBAM appears to be crafted to avoid sectors where U.S. and Chinese exports feature too prominently. Despite voicing reservations in early 2021, the U.S. has been broadly supportive and upon becoming president-elect Joe Biden voiced his interest in a U.S. CBAM.
- However, the U.S. could be open to challenges if it were to implement such a measure without comprehensive domestic climate policies, including possibly a federal carbon price – something that looks unlikely for the time being.
- Another trade-related issue concerns energy imports: with declining domestic gas production, the EU is leading efforts to tackle fugitive methane emissions associated with imported natural gas. The proposals released at end-2021 include a reporting obligation for gas importers and could be supplemented by mandatory standards and punitive pricing.

 The EU's strategy is not enough to compel trade partners to act: the onus is shared with national governments, and companies loath to collect emission data or review their confidentiality rules.

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- The direction of travel in the U.S. is promising. The EPA has proposed rules that require companies to report their methane emissions and the Biden administration is considering levying a tax on gas producers' fugitive methane emissions. Meanwhile, U.S. suppliers are starting to incorporate climate considerations when marketing natural gas by either offsetting LNG cargoes or, more promisingly, providing emission tags for each shipment.
- Countries around the world aim to use low-carbon hydrogen to reach their net-zero targets, requiring consistent labels and emission standards for different production pathways. Several schemes are in the works, but those most primed for uptake are technology agnostic and keep the focus firmly on emissions.

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