

Sharm El-Sheik, Egypt 2022

COP 27 Special Report: Advancing Climate Objectives Amidst Conflict

S&P Global
Commodity Insights



What a difference a year makes

When world leaders and climate policymakers gathered in Scotland in 2021 for the UN's COP26 climate change conference, the world was beginning to recover from the COVID pandemic and had seemingly turned a corner.

Climate negotiators were eager to achieve progress, and the COP26 sessions yielded some success—namely around carbon markets via Article 6, methane commitments, coal, and deforestation. Other major issues remained unresolved or saw minimal progress, including financial commitments to help poorer countries mitigate climate change, and climate justice.

The Russian invasion of Ukraine in February elevated energy security as the top concern for many leaders. As the world scrambled for resources, energy security, accessibility, and affordability took priority over climate initiatives. In response, some governments accelerated investment in lower-carbon energy sources, while many others backtracked on green energy initiatives in favor of more fossil fuels, a choice that threatens climate objectives already behind the schedule needed to limit the global temperature increase to 2°C compliance by 2050.

Rising inflation and a looming global recession could potentially derail economic and climate progress, as the world faces escalating, more intense climate events. Since Glasgow, millions of people suffered from devastating fires, floods, drought and starvation, and the climate finance failures of past COP sessions continue to deepen the divide between rich and poor nations.

Faced by geopolitical and economic challenges in the widening chasm of climate inequalities, many question the progress negotiators can achieve at COP27 and the relevance of these talks going forward, but all agree progress must be made. Some bright spots exist with the US and the EU delivering or advancing new policies that are accelerating financial incentives for low- or zero-carbon projects, but many more countries must commit and move to act, as time is short.

We invite you to follow our coverage and insights on COP27, our participation in some key onsite discussions on carbon markets, future energy scenarios, and our delivery of a critical methane roadmap for Egypt that could well serve as a model for other countries eager to move from climate commitment to climate action.

Melissa Manning, Editor,

S&P Global Commodity Insights COP27 Special Report

“Nature has the upper hand, business as usual is no longer an option. As human beings, we are realizing that climate change is nature’s revenge. We must learn to work with nature and not against it.”

Dr. Sunita Narain

Director General, Centre for Science and Environment, climate researcher & author, conversation with Atul Arya, Chief Energy Strategist, S&P Global Commodity Insights



COP26: Progress made, but commitments still fall short of Paris



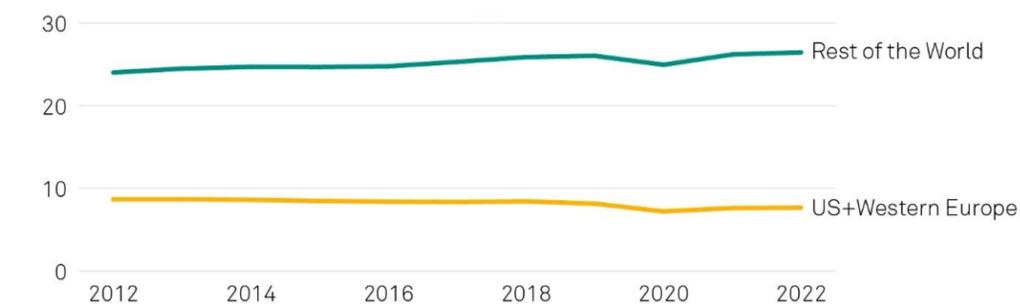
COP26 in Glasgow yielded some success on climate, particularly in terms of country commitments to eliminate emissions by 4.8 billion mt CO₂e by 2030, methane, coal reductions, EVs, and critical resolution on Article 6 that regulates carbon markets. However, outcomes still fell short of the commitments made in the 2015 Paris Agreement needed to avoid 2°C warming.

The UN said this is far from enough— suggesting that 12.5 billion mt of cuts are needed by 2030 to get on track with a 2°C goal, or 27 billion mt CO₂e by 2030 to get on track with 1.5°C.

Resolution on rules regarding global carbon markets. The Glasgow Agreement provided some clarity on Article 6 and voluntary global carbon credit markets, specifically as it relates to investors being able to buy and sell emissions reductions credits, but more work is needed to establish clear accounting rules for the trading of carbon credits.

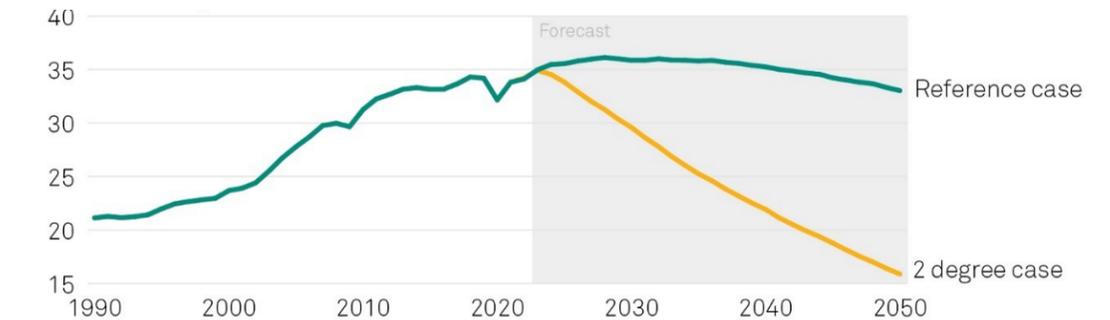
- **100+ countries pledge methane reductions.** More than 100 COP countries, representing 70% of the global economy, agreed to reduce methane emissions by at least 30% of 2020 levels by 2030. Methane emissions account for about half of the 1°C net rise in global average temperature since the pre-industrial era. However, China, Russia, India, and Australia sat out.

Global emissions over the last decade (gigatons CO₂)



Source: S&P Global Commodity Insights

Projected global emissions by 2050 (billion mt CO₂)



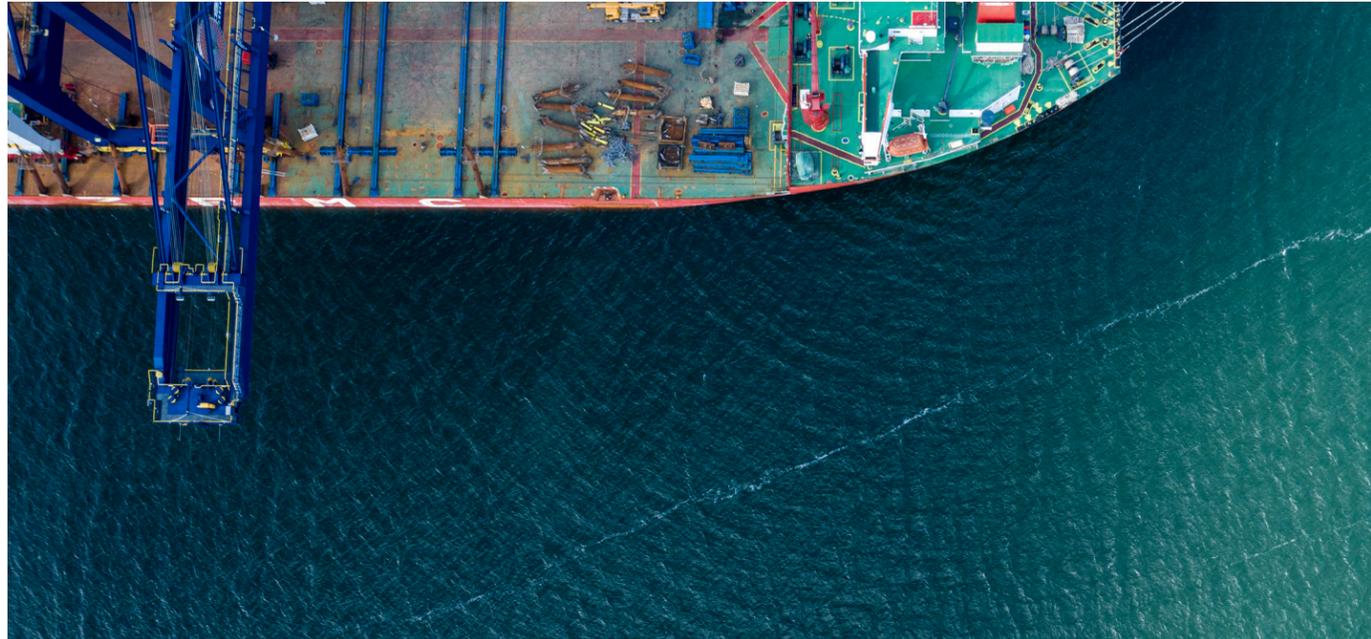
Source: S&P Global Commodity Insights

- **S&P Global Commodity Insights launched its Platts methane performance certificate assessments.** The certificates represent avoided methane emissions from the production of a specific volume of natural gas in the contiguous US and Canada.
- **COP26 addressed climate funding, promising to double funding for adaption by 2025, and to monitor progress.** COP26 urged wealthier nations to increase and deliver their annual pledges through to 2025.
- **European leaders called on other developed nations (the world’s largest emitters) to honor funding commitments pledged in Paris.**
- **Landmark coal pledges announced, but India, China insisted on phase down.** Nearly 200 countries pledged to phase-out coal-fired generation in the 2030s for major economies, and the 2040s for the rest of the world. Large coal emitters, including China, India, and the US did not sign, and ultimately, coal-dependent India and China insisted on a “phase down” of coal, rather than a “phase out,” watering down the agreement.
- **Just 33 states and 11 carmakers signed a transportation pledge to “work towards” 100% zero-emissions sales by 2035 in leading markets, and 2040 globally.** However, China, the US, and Germany did not sign, and neither did BMW, Honda, Daimler, Toyota, Volkswagen and SAIC Motor.
- **Deforestation progress, but enforcement remains unclear.** Leaders from more than 100 countries that contain about 85% of the world’s forests promised to stop deforestation by 2030, but enforcement was not addressed. Trees act as a “carbon sink” to absorb CO₂.
- **More than 20 countries including the US, Japan, Australia, and Canada agreed to develop at least six green-shipping corridors between two or more ports by 2025, and “many more” by 2030.** Amazon, Ikea, Michelin, Unilever, and Patagonia committed to buy only zero-carbon freight from 2040. The global maritime shipping sector accounts for 3% of global CO₂ combustion emissions.
- **COP nations agreed countries must leverage science and accelerate climate ambitions.** The COP26 agreement called on all parties to “accelerate the phase-out of coal power and of inefficient subsidies for fossil fuels.” It recognizes that limiting global warming to 1.5°C “requires rapid, deep and sustained reductions in global GHG emissions, including reducing global carbon dioxide emissions by 45% by 2030 relative to the 2010 level, and to net zero around mid-century, as well as deep reductions in non-carbon dioxide greenhouse gases.”

“Window on keeping 1.5°C global warming within reach is closing...
“We can say with credibility that we have kept 1.5°C within reach, but its pulse is weak.”

COP26 President Alok Sharma

Russian invasion of Ukraine a wake-up call for Europe



Prior to the Russian invasion of Ukraine in February, Europe and the UK were already experiencing tight natural gas supplies as UK production was in decline. Natural gas was viewed as an affordable, lower carbon “bridge fuel” to transition away from other sources, including coal and nuclear. However, an overreliance on Russian natural gas proved to be a strategic flaw as renewables had not yet scaled sufficiently to replace traditional sources. Fires, outages, intermittent renewable generation, and other unplanned events showed the vulnerability of this energy imbalance. The war’s escalation and mounting human loss alarmed world leaders, driving them to enact harsh sanctions against Russia. In turn, Russia drastically cut gas flows to Europe, driving much of Europe into a scramble to secure ample supplies of natural gas for winter storage. The result has created energy instability and extreme price volatility that has rippled across global energy markets, leaving many European countries scrambling to find alternative energy supplies.

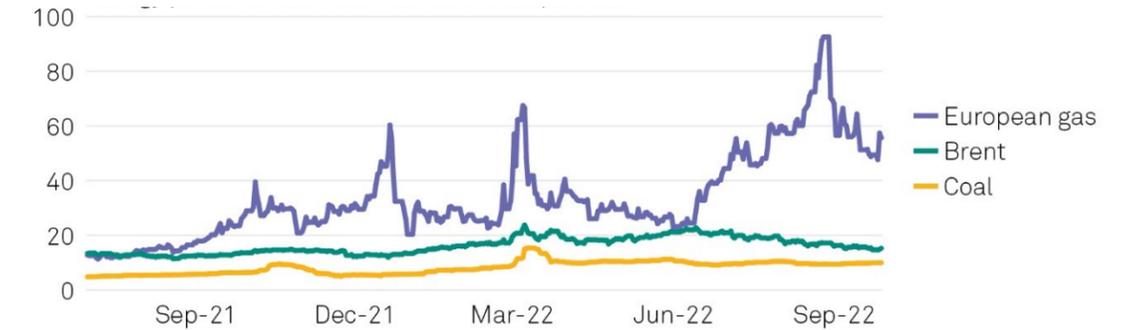
Energy security rises again

The invasion has prompted some politicians in Europe, Germany, the US, and elsewhere to rethink their energy security needs and heightened their desires to reduce dependence on Russian oil and gas. The invasion led some countries to advance their plans for renewables, while others tabled climate objectives in favor of more supplies of coal and fuel oil. Germany, the world’s fourth-largest economy, backtracked on coal to address natural gas shortages.

Coal moves to the front burner; nuclear gets a rethink

Coal-fired power generation increased 7.6% in 2021, according to S&P Global Commodity Insights data. China, India, the US, and Germany led the growth in coal-fired power, largely driven by high gas prices, growing electricity demand, and severe drought. Just months after committing to a pledge at COP26 to phase down coal-use, nearly half of the countries that made that pledge increased their coal-fired power generation in 2021.

Energy prices in 2021-2022 (\$/MM Btu equivalent)



Source: S&P Global Commodity Insights

Nuclear energy is also getting a rethink. Some countries such as Germany, the UK and Japan are now delaying decommissioning of aging nuclear facilities to address shortfalls, but this is a temporary fix, and longer-term, potentially smaller modular nuclear reactor (SMRs) projects are being considered by many countries for the benefits of energy security, low-carbon capacity, increased safety profiles, and reduced costs.

A recent *Global Clean Energy Technology Report* published by IHS Markit, now S&P Global Commodity Insights, titled *Small nuclear reactors: An opening window of opportunity*, examined the global potential for SMR. Author Deborah Mann, senior director of the Clean Energy Technology Service at S&P Global Commodity Insights, said, “Interest in SMRs is growing fast. There are 18 countries currently developing up to 90 designs.” According to Mann, the development of conventional designs (often derived from marine uses – think nuclear submarines) to provide decarbonized power for remote locations or industrial applications offers the benefit of cost reductions due to deployment of multiple projects with identical modular design and factory fabrication. These smaller, factory-built reactors reduce up-front cost and risk, and provide more flexibility than large-scale nuclear reactors.

Europe’s energy crisis deepens resolve for renewables, but no policy yet

In May, the EU announced REPowerEU, a plan to reduce reliance on natural gas from Russia. REPowerEU would see a tripling of renewables capacity in Europe by 2030, including a push for rooftop solar and, faster permitting timescales, and signaled the Commission’s preference for 45% renewable energy by 2030. Despite the consensus around the value of renewable power, few countries have increased their renewable targets, according to the newly published *S&P Global Commodity Insights Europe Renewable Power Market Update*. Should the EU plan be adopted, the energy transition in Europe would be greatly accelerated.

Germany increased its 2030 capacity target for onshore wind to 115 GW and 215 GW for solar photovoltaic (PV). Offshore wind is now the preferred renewable energy target for 2030 increases, for coastal countries. In the first half of 2022, Belgium, the Netherlands, and the UK all increased their offshore wind commitments for 2030. Belgium, Denmark, Germany, and the Netherlands signed a high-level agreement for offshore wind and hydrogen for the long term. Greece signed its first offshore wind bill with a formal target of 2 GW by 2030.

Opinion: We need resilience in our energy systems

By Carlos Pascual, Senior Vice President, Insights for Geopolitics and International Affairs, S&P Global Commodity Insights

Our global energy systems, launched through the Paris Agreement on a transition to a world aspiring to net-zero emissions, have found through the war in Ukraine, that they do not have the resilience to keep the world supplied with the resources needed to sustain jobs and economic growth. Today, we face a new imperative: to balance energy security, transition, and sustainability – to meet global demand for the fuels that drive our global economy, and to build the energy systems to redress climate change.

Lesson one is that energy security and energy transition must be in balance to sustain energy systems that are also affordable. The jump to a net-zero world cannot occur without investing in and building a new energy economy. That will occur in phases. The phase out of our existing energy systems must be synchronized with the buildup of low-carbon and net-zero energy solutions.

1 Technology and finance for developing countries:

Developing countries host the majority of the world's population. And today, they are hit by a four-fold shock: higher commodity prices, pressure not to develop their hydrocarbons, currency devaluations that are exploding the local currency cost of their debt, and yet higher costs of capital. Bridging a growing North-South divide demands a comprehensive treatment of developing country debt to free up resources to invest in energy and social services. Creative financing through IFIs and development agencies are needed to take the first risk of defaults and reduce the cost of capital. International oil and gas companies should be encouraged to invest in developing countries with commercial oil and gas resources and to transfer technologies on decarbonization. Without such a comprehensive response, the North-South polarization will grow, along with the global risks that come with it.

Failure to manage this balance will create economic and political tensions that will disrupt or even explode the capacity of the transition. The war in Ukraine and its impact on Europe is the most profound illustration yet of the potential economic and social dislocation and political risks. To be sure, whether future disruptions are technical, commercial, or geopolitical, all will carry risks of social and economic dislocation if our energy systems do not create alternatives.

Knowing that such disruptions are inevitable places a premium on resilience – to preempt or hedge major disruptions and support continuity of the energy transition. While there may not be universal solutions – countries and regions vary – here are five reflections on building resilience to balance energy transition, security and affordability that draws on lessons from regional experience:

2 Natural gas:

Europe's crisis is rooted in relying on a single source of natural gas and inadequate alternatives. LNG already plays a critical role in replacing Russian gas in 2022. The UAE, having committed to double its LNG production by 2026, is well positioned to help plug the gap in European and global gas markets, as reflected in UAE's recent LNG deal with Germany. Gas has been an indispensable fuel for high temperature industrial requirements like steel and cement, to provide baseload power to balance the intermittency of renewables, and for residential and industrial heating. The debate on gas should not be terminating an affordable hedge that supports the energy transition. Rather, the focus should be on securing a dual-purpose gas infrastructure that can move to sustainable gases such as hydrogen

3 Permitting:

If there is an issue that evokes consensus between renewable energy and pipeline developers, it is the slow pace of issuing permits. Depending on national governance structures, federal authorities must fill a critical gap and work with developers and decentralized agencies to set criteria where projects can be fast-tracked and to establish limits for legal review. If countries cannot bring existing technologies like wind and solar on-line, what are the incentives to invest in new and riskier technologies?

4 Hydrogen and carbon capture, utilization and store (CCUS) projects:

Delays in technologies, commercial viability and infrastructure investments in renewable power could undermine the decarbonization strategies for hard to abate sectors such as steel, cement and glass. Europe has made hydrogen a lynchpin to transition from the role of natural gas in industry, power storage, balancing renewables intermittency, and heating. CCUS can play a central role in global decarbonization, but that will require innovation and rapid delivery at scale.

5 Supply chains:

Supply chains are a new point of fragility in national security. Critical minerals or metals are concentrated in a few (and sometimes volatile) countries. Crises over microchips have highlighted the risk of concentrated ownership and processing of many key components. Environmental and social constraints to expand processing in OECD countries indirectly add to the concentration of control. And it could take years or decades to find and put into operation alternative supplies that are, for example, critical for electric vehicles. Perhaps the simplest policy lesson is the need to institutionalize in governments, industry and the financial sector, credible mechanisms to model our energy futures and the resilience of roadmaps to net-zero. The war in Ukraine was a massive geopolitical shock. There will be others, and not just geopolitical. Against every net-zero road – in companies and countries – what are the plan Bs and Cs?



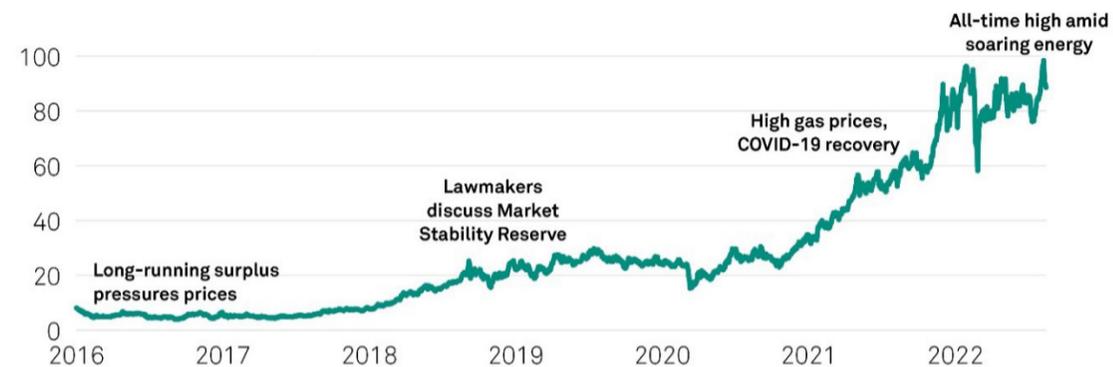
Carlos Pascual is Sr. Vice President at S&P Global Commodity Insights for Geopolitics and International Affairs. He was the US Ambassador in Ukraine and Mexico and founder of the Energy Resources Bureau in the US State Department.

Path to COP27: Seven themes to watch – Analysis by S&P Global Commodity Insights



“Against a backdrop of economic and geopolitical uncertainties, there are at least seven key things to watch for at COP27 in Egypt,” said Dan Klein, head of future energy pathways, S&P Global Commodity Insights.

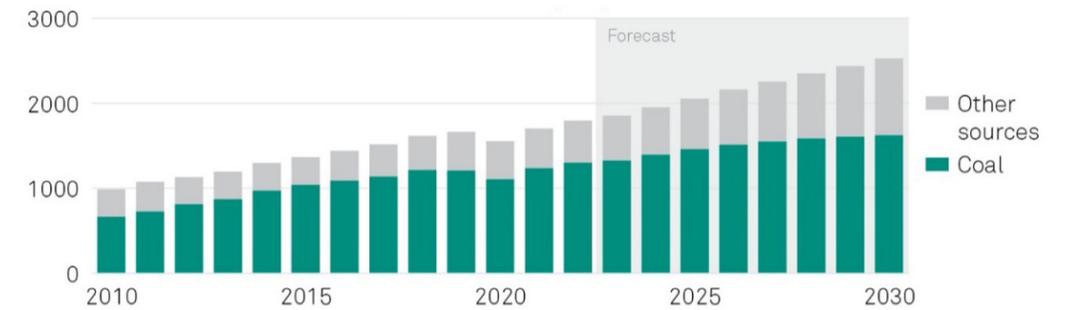
EU carbon allowance prices (EUR/mtCO₂e)



Source: S&P Global Commodity Insights

- **Can the world even unite around climate right now?** Even before Russia’s invasion of Ukraine, cooperation between the major economies has been limited. Western Europe and the US have significant plans to reduce carbon emissions but can’t “go it alone” on climate. Even if emissions in these areas decline to zero, emissions from the rest of the world would still need to fall 65% from current levels by 2050 to reach a global 2°C target. <https://lumen5.com/user/maritime-trade/cop27-intro1-nme1f/>
- **Will COP remain relevant?** With the Paris Agreement Rulebook complete, the need for near-term major centralized decisions through institutions like COP seems to be decreasing. We may see more legislation like the US IRA, which provides for industrial policy through incentives for markets to develop and build low-carbon technologies. <https://lumen5.com/user/maritime-trade/cop27-5-i5ckn/>

Coal's share of India's electricity generation (TWh)

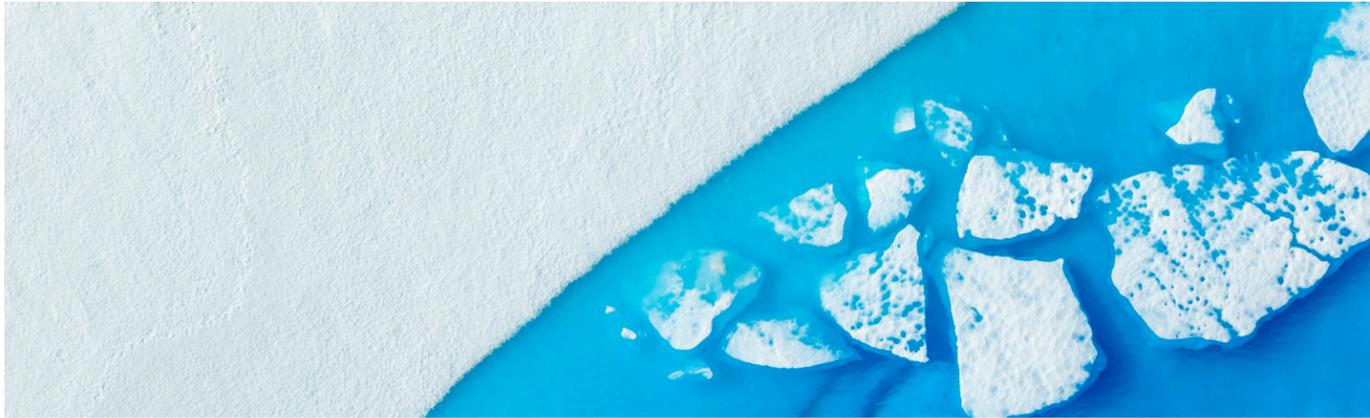


Source: S&P Global Commodity Insights, 2022

- **Will COP27 provide clarity for voluntary carbon market participants?** For the Voluntary Carbon Market, resolution of Article 6* of the Paris Agreement at COP26 was significant because it defined the mechanisms by which carbon markets can contribute towards a country’s Nationally Determined Contribution (NDCs). COP27 negotiations will build on defining the detailed rules of the carbon crediting schemes around mitigation activities that qualify, types of carbon projects allowed certification and use, as well as avoidance of double counting of credits. <https://lumen5.com/user/maritime-trade/cop27-4-lvo9w/>
- **Will countries accelerate decarbonization goals?** Delegates at COP26 decided countries should reevaluate their NDCs more frequently, moving from a five-year cycle to an annual one. So far, we’ve seen few announcements. It will be telling to see how many countries come through, and whether short-term realities impact their new goals. <https://lumen5.com/user/maritime-trade/cop27-2-ncx98/>
- **What is the progress on additional agreements made last year?** COP26 featured the signing of several agreements, most significantly on coal, methane, and deforestation. One year later, signatories of these agreements will be under scrutiny to show progress. Such agreements had deflected attention from calls to address direct emissions of burning oil and natural gas. Expect more focused attention on addressing carbon intensity of these fossil fuels, and commodities more broadly. <https://lumen5.com/user/maritime-trade/cop27-3-9p4id/>
- **What will India do?** Beyond the Big 3 of global GHG-emissions (China, Europe, and the US), India has always been a key climate player. India is the largest economy, energy consumer and emitter that has stayed strictly neutral throughout the current geopolitical tensions. The world’s second-largest emitter of CO₂ from coal-India will be looking for funding from the developed world to address carbon mitigation.
- **Are richer nations willing to finance poorer nations to mitigate climate change?** Pledges have been made in this area in the past, with varying degrees of follow through. At COP26, an agreement was struck to double adaptation finance to \$40 billion by 2025. Recent weather events are increasingly being tied directly to climate change. And these increasingly bring calls for payments of losses and damages to come from the developed world (those countries responsible for most historical emissions to date) – to the fore.
- **Roman Kramarchuk, head of future energy analytics, S&P Global Commodity Insights, said:** “Given all of the competing geopolitical, economic and financial pressures – and increasingly domestic-oriented policy directions – a key question arises as to whether COP can remain relevant as the premier forum for shaping the global energy transition that is needed to avoid damaging climate change.”

For more on COP27 and the energy transition, visit spglobal.com/commodityinsights

Top of COP27 agenda: Loss and damages-- “Climate justice, not charity”



Facing mounting losses and permanent damage to the environment caused by increasingly severe and more frequent climate events, including devastating floods, severe droughts, fires, rising sea levels, and deforestation, developing nations attending COP27 in Sharm El-Sheik, Egypt, elevated the issue of “loss and damages” for climate change impacts to the top of the agenda. The issue at stake is one of climate justice and survival—the countries that have contributed the least to climate change—and yet are most vulnerable to its impacts, are demanding the world’s largest economies—the biggest emitters—the US and the EU, pay for their past emissions and the changes those emissions are now having on the world’s most vulnerable citizens.

Nabeel Munir, chief negotiator for the Group of 77 plus China negotiating block, said loss and damage was one of the principal demands being discussed this year among almost all developing and climate-vulnerable nations. “This is the beginning of what will be a slow and painful process, for developed and developing countries... It’s a big achievement that the other side is beginning to accept what we’re saying is fair. Loss and damage is not charity, it’s climate justice.”

By 2030, climate change could cost developing countries as much as \$580 billion per year, and \$1 trillion by 2050, but the US and EU argue that agreeing to pay restitution under the terms suggested would open them up to never-ending litigation. The US and EU argue current finance mechanisms, coupled with humanitarian aid,

and private insurance are sufficient, but the promised funding to date of \$100 billion is \$17 billion short already.

Developing nations argue that the money offered through those routes is typically in the form of loans, not grants, and much of it is for clean-energy investment, not adaptation, which is of the upmost concern and urgency for these nations. Countries already burdened financially are not likely to gain support in financial markets in time of crisis, climate justice advocates say, and should have some mechanism for debt cancellation, or a carbon-pricing system to support a loss-and-damage-fund.

Most prosperous economies failing world’s most vulnerable; again

In a scathing rebuke that harkened back to a painful imperial past, Mia Mottley, prime minister of Barbados, who spoke at a COP27 event organized by Nicola Sturgeon, Scotland’s first minister, criticized industrialized nations for failing the developing world on the climate crisis. The prosperity of the rich, she said, “has been achieved at the expense of the poor in the past and again today, the poorest most vulnerable people are suffering again from the emissions of the prosperity of the rich that they did not cause.

“We were the ones whose blood, sweat, and tears financed the industrial revolution,” she said. “Are we now to face double jeopardy by having to pay the cost of those greenhouse gases from the industrial revolution? That is fundamentally unfair.”

She, along with leaders of other countries, think the World Bank has not done enough to help countries with climate disaster, and the World Bank’s focus should be on grants, not loans to help countries address climate mitigation and adaptation. “Unless that happens, we are going to see an increase of climate refugees. We know that by 2050, the world’s 21 million climate refugees will become 1 billion.”

UN Secretary-General Guterres: World on a climate “highway to hell”

More than 100 leaders attended the climate conference Monday, Nov. 7, where UN Secretary-General António Guterres offered a strong warning that the world was on a “highway to hell,” and implored rich and poor nations to make a historic pact to help each other to work through the global climate crisis instead of working against each other.

“We are in the fight of our lives, and we are losing, and our planet is fast approaching tipping points that will make climate change irreversible. “We are on a highway to climate hell with our foot on the accelerator,” he said. “We can sign a climate solidarity pact, or a collective suicide pact.”

UN Secretary-General António Guterres

“A window of opportunity remains open but only a narrow shaft of light remains. The global climate fight will be won or lost in this crucial decade—on our watch” he said.

Special funding proposed for adaptation

Guterres said the issue of funding is a “fundamental question of climate justice, international solidarity, and trust,” and said, “polluters must pay”[the \$100 billion promised] as the COP27 talks got underway in Egypt. If they won’t, Guterres suggested oil and gas companies pay a windfall tax that could be collected by nations and deposited into a global account for loss and damage in poorer countries. He also called on countries not to invest in more fossil fuels and said they should instead support renewable energy.

Guterres said countries must reprioritize climate change or the world faces catastrophe. “There has been a tendency to put climate change on the back burner,” he said. If we are not able to reverse the present trend, we will be doomed,” he said.

Carbon markets hot topic in Egypt

Aside from funding for adaptation to climate change, carbon markets, and greater market accounting clarity and resolution, are other areas awaiting resolution at COP27. However, that has not stopped others from making announcements regarding carbon market initiatives, including the US and African states.

US announces carbon credit plan to aid energy transition of developing nations

On Nov. 9, US special climate envoy John Kerry announced at COP27 a planned US system for companies to buy carbon credits to help finance the phase-out of coal power in developing nations, Kerry said that Microsoft and PepsiCo were involved in the plans and environmental groups and countries also were supportive of the plan, but fossil fuel companies were excluded.

African Carbon Markets Initiative launched

At COP27, a coalition of African states have launched the Africa Carbon Markets Initiative roadmap to deliver more than 300m Voluntary Carbon Market (VCM) credit retirements/year by 2030 and 1.5bn credit retirements/year by 2050.

S&P Global Commodity Insights experts at key COP27 sessions



S&P Global Commodity Insights experts were honored to participate in several Main Event “Decarbonization Day” presentation sessions during COP27 as chairs and moderators. Atul Arya, Ph.D., chief energy strategist at S&P Global, and Carlos Pascual, senior vice president for geopolitics and international affairs at S&P Global, were joined onstage in several discussions by John Kerry, US Special Envoy for Climate, as well as 10 national government ministers, and CEOs from Siemens, Schlumberger, Technip Energies, ENI, Total, Baker Hughes, SAIPEM, Turboden, and other companies.

From methane pledge to action: S&P Global Commodity Insights helps Egypt launch methane roadmap

The Sharm El-Sheik Oil and Gas Methane Reduction Roadmap, an action plan to help end methane venting and cut methane leaks in oil and gas operations, was launched Nov. 11 at COP27 by the Egyptian government. The Egyptian Ministry of Energy had enlisted S&P Global Commodity Insights consulting team to develop the plan.

The Sharm El-Sheik Oil and Gas Methane Reduction Roadmap, which was announced on Decarbonization Day, is designed as a guide to help governments engage industry to bring its skill, technology, and resources into verifiable methane-reduction plans by outlining the means of support, including technology transfer, capacity building and finance.

“Governments don’t operate in reducing methane, industry does—so what this roadmap is going to do is figure out how to bring industry into the process to create a public-private partnership.”

Carlos Pascual, senior vice president for geopolitics and international affairs at S&P Global

Government and industry collaboration can translate strategy into implementation and accelerate methane emission reduction

Sharm El-Sheikh Oil and Gas Methane Roadmap

	Near-term impact (Next 12 months)	Medium-term impact Beyond one year
 Program establishment	Methane emissions survey	<ul style="list-style-type: none"> – Gaps and barriers assessment – Target setting – Best practice sharing and capacity building – Performance monitoring
 Measurement and reporting	Detection and rapid response	<ul style="list-style-type: none"> – Measurement and quantification – Reporting system
 Financing, verification and implementation	Low capital project implementation	<ul style="list-style-type: none"> – Business models and financing pathways – Verification and certification approach – High capital project implementation

“At COP27, we succeeded in creating a new framework for public-private engagement on methane reduction. The momentum from industry and governments [at COP27] was exciting. They demonstrated a commitment to act, and a recognition that they have the tools to have an impact,” Pascual said.

The Sharm El-Sheik Oil and Gas Methane Roadmap is an action plan developed in response to the Global Methane Pledge signed last year at COP26. Since it was announced last year in Glasgow, more than 122 countries have signed the Global Methane Pledge, aiming to reduce methane emissions by at least 30% by 2030. The oil and gas industry emits nearly one-third of global, anthropogenic methane emissions.

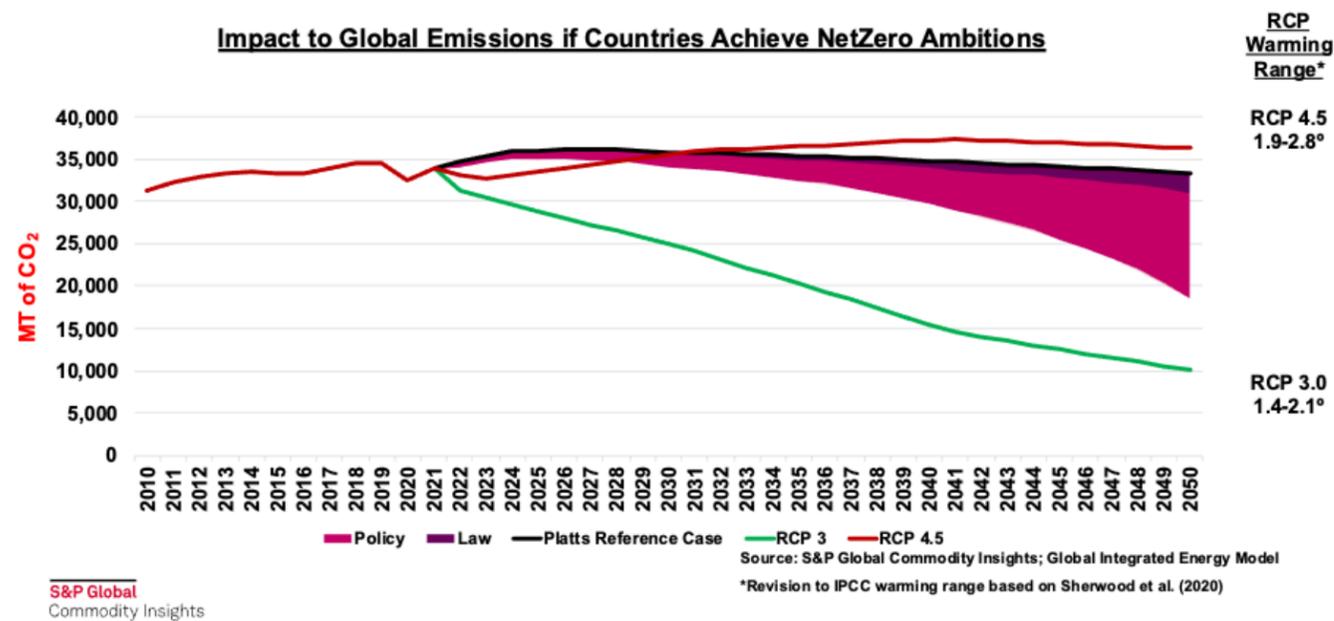
In addition to facilitating the Sharm El-Sheik Oil and Gas Methane Roadmap, the S&P Global Commodity Insights consulting team presented two workshops onsite at COP27 to industry on decarbonization, which was well received.

Getting to net-zero opportunities and challenges

Atul Arya, Ph.D., chief energy strategist, and Roman Kramarchuk, head of Future Energy Analytics at S&P Global Commodity Insights, presented insights on Getting to Net-Zero Opportunities and Challenges at a workshop, Nov. 9 at COP27. Some key takeaways from their presentation included:

- **Reality is that world is in an energy addition cycle, not energy transition.** According to Arya, given growing demand, then world is currently adding all kinds of energy, including hydrocarbons, rather than transitioning from them. “The share of hydrocarbons in the global energy mix has declined from 83% to 80% in the last 30 years. How realistic is it that the share will decline enough to hit net-zero targets in the next 30 years?”
- **Solar pv and wind are not sufficient to reduce emissions and the concentration of atmospheric CO2.** There is a misconception that to reduce emissions, we just need to add more wind and solar,” Arya said. “However, we can’t solve all the problems of reducing emissions with solar and wind, due to the challenges of the hard-to-abate sectors like chemicals, cement, steel, construction, etc.”
- **Energy emissions had declined due to pandemic but are bouncing back stronger.** Emissions are increasing after COVID-19, partly given rebounding demand, but also due to additional coal burn. “In terms of emissions, we overshot everything we lost during COVID-19,” Kramarchuk said.
- **Despite key country commitments to net zero, the world is not on target to limit warming to 1.5°C.** Even if all countries that have made commitments achieve their net-zero targets, the world’s CO2 emissions trajectory remains far above the RCP 3.0 scenario that is more consistent with a 1.5°C target.

Even with all current pledges being met, world comes up short of RCP 3, but likely avoids worst impacts



- **Energy is a capital-intensive, hardware business, not a software business.** There is so much capital embedded in this business, with longer-lived assets and long durations of stock turnover. Lower cost-transition would involve using existing capital stock,” ideally adapting it for transitional use. ideally, adapt it for transitional use.
- **40% of energy capital additions are dedicated to low-carbon investments, but much more is needed to reach a net-zero trajectory.**
- **Given the state of clean technologies, the power sector and the light-duty vehicle sector will turn around more quickly.** This will happen through a shift to renewables and clean power generation, and with electrification of the passenger car fleet.
- **Every country has its own energy emissions profile, so its journey to net-zero is unique.**
- **Promising new energy solutions emerging, but can they be scaled in time?**
We expect clean hydrogen will grow quickly and start making a larger impact into the 2030’s and 2040’s, but we must get it right this coming decade. Hydrogen is an energy carrier, but it can be used in every sector. Carbon capture can play a major role in

- scaling reductions, but again, not until the technology is further developed, costs decline and uptake improves significantly.
- **The geopolitical side of clean energy materials and metals is increasingly important.** To ensure these minerals are supplied, geopolitical discussions must be maintained.
- **Even with decarbonization push, oil demand will continue through its use as a feedstock for petrochemicals and plastics. Sustainability pressures will push for alternative materials and greater recycling.**
- **Need to invest, not just in clean energy to meet growing global demand, but to shift out existing emitting capital stock. To have a chance at hitting the ambitious targets set in Paris, we have a limited time to accelerate the transition and get it right.**

Coal: Progress and contention at COP27



France’s Macron calls for further funding of coal phase-out deals

On Nov. 7, France, Germany, the UK, and the US endorsed South Africa’s Just Energy Transition Investment Plan to phase out coal-fired power plants and accelerate renewables. The plan is being supported by \$8.5 billion of initial funding from the Western economies.

French President Emmanuel Macron told the COP27 that support offered to South Africa to help phase down coal-fired power must be extended to countries like Indonesia and India. “We’ve taken the first major step forward with South Africa, now we will scale this up with India and Indonesia. We as developed nations must transition away from coal, and help emerging economies to do so as quickly as possible,” he said.

India still investing in coal

While India is another candidate for this kind of financing, the country is expected to wait until it hosts G20 talks next year, Ember Global Program Lead Dave Jones said.

“These partnerships could represent critical initial steps towards what will be complex national energy transitions that need international support,” Jones said. The Indian government launched Nov. 3 an auction process for 141 new coal mines.

Launching the round of auctions, federal finance minister Nirmala Sitharaman said that amid rising global energy prices, “a fast-growing economy like India needs greater investment in coal production and gasification projects.”

India is the third-largest emitter of CO₂ in the world. In a reference scenario, S&P Global Commodity Insights Global Integrated Energy Model forecasts India’s carbon emissions rising to 2.89 billion mt/year in 2030 from 2.41 billion mt/year in 2022 and rising further to 3.37 billion mt/year in 2045.

China expands plans for coal-fired power plant development

Despite a push by Western countries at COP27 to move coal-dependent countries like China away from coal-fired power production more quickly, China plans to add new coal plants to its fleet to address supply shortages and energy market volatility. Chinese delegates attending COP27 said the additions are short-term solutions and should not be considered a shift in China’s emissions policies.

The Chinese delegates at COP27 said that over the long term, electricity market reforms and massive investments in renewable power and energy storage will eventually curb and curtail coal use, allowing China to achieve targets of peak emissions by 2030 and zero emissions by 2060.

Global Shield plan to provide quick cash for poor nations during disasters

In a year that saw millions of people affected by climate disasters with many still waiting for relief or aid to recover, Germany and the V20 group of climate-vulnerable nations unveiled the Global Shield at COP27,

a G7-backed initiative with about \$219 million in funding that will provide quick insurance and protection financing after climate-related disasters. It is intended to complement the so-called loss-and-damage funding that is already under discussion.

The Global Shield program expands initiatives from subsidized insurance coverage to stronger social protection programs and pre-approved disaster financing aimed at ensuring international help arrives quickly to support contingency plans in poorer countries where disasters have struck.

US, Japan lead \$20 billion partnership to wean Indonesia off coal

The US, Japan, and a coalition of other countries will mobilize \$20 billion in public-private finance to help Indonesia transition off coal-fired power production more quickly, according to an announcement made at COP27. The Indonesia Just Energy Transition Partnership (JETP) will offer \$20 billion in grants and concessional loans to Indonesia over a three-to-five-year period, with Indonesia agreeing to cap its power sector emissions at 290 million mt by 2030. The agreement will also move forward the country's peak emissions date by seven years to 2030.

The JETP deal is modeled on 2021 \$8.5 billion initiative launched at COP26 in Scotland to help South Africa more quickly decarbonize its power sector. The South African program was backed by the US, Britain, and the EU.

“We’ve built a platform for cooperation that can truly transform Indonesia’s power sector from coal to renewables and support significant economic growth.”

John Kerry
US Special Envoy on Climate Change

COP27: Paris Article 6.4 first carbon credits likely issued in 2024: IETA

The issuance of the first carbon credits under Article 6.4 of the Paris Agreement is likely to take place in 2024, according to Andrea Bonzanni, international policy director at the International Emissions Trading Association. This is slightly later than originally envisaged at the COP26 climate summit in Glasgow in 2021.

“In the Glasgow decision, there was a reference to the end of 2023 as the potential date of the issuance of the first credits,” Bonzanni told S&P Global on the sidelines of COP27.

“This was not a binding deadline. But given the progress this year, I think we’re looking at some date after the end of 2023 for the initial operation of the mechanism,” Bonzanni said.

Article 6.4 is a mechanism that will be overseen by the UN, allowing a company in one country to reduce emissions domestically and have those reductions credited so that it can sell them to another company in another country. The mechanism is seen as a replacement for the UN’s Clean Development Mechanism, which allowed emissions reduction projects in developing countries to generate carbon credits under the Kyoto Protocol.

Article 6.4 requires decisions to be made by a supervisory body and the CMA -- the overarching UN body established under the 2015 Paris Agreement in order to operationalize the mechanism, Bonzanni said.

In parallel, Article 6.2 sets out a system of national accounting for greenhouse gas emissions, with common principles that countries can adopt to allow cross-border exchanges of credits.

COP27: Leading developing nations raise concern over western ‘double standards’

Leading developing economies have warned of “unilateral measures and discriminatory practices” among parties to COP27, highlighting the “double standards” of developed countries.

Climate and environment ministers from Brazil, South Africa, India and China issued a statement at COP27 in Nov. 15 warning of backtracking by developed countries on climate mitigation and finance commitments, saying they were “gravely concerned that developed countries are still not showing leadership or responding with a matching progression of effort.” The statement came a day ahead of the G20 leaders’ declaration in Bali, Indonesia, in which the world’s largest economies resolved to “pursue efforts to limit the temperature increase to 1.5°C ...with international cooperation and support, including finance and technology.”

There has been a significant increase in consumption and production of fossil fuels in the past year by developed countries, the COP27 group of developing countries said. This was the case “even as they continue to press developing countries to move away from the same resources,” the group said. “Such double standards are incompatible with climate equity and justice.”

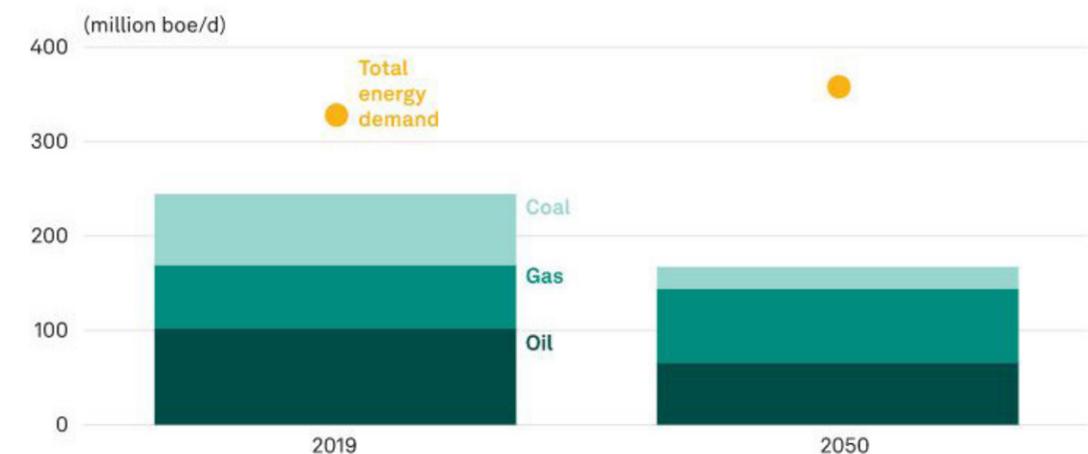
The group called on developed countries to honor pre-2020 commitments on mitigation, adaptation and means for implementation, “without transferring any burden and responsibility to developing countries,” muddying the way for a meaningful agreement at the end of the conference.

UN issues report to stop net-zero greenwashing

The UN issued a report Nov. 8 urging companies pledging to get their emissions to net-zero to ensure their plan is credible and amounts to meaningful action instead of “bogus” assurances. The group of experts, commissioned by the UN Secretary-General António Guterres at COP26, delivered numerous strict recommendations for businesses, banks and local governments making net-zero pledges, calling their report a roadmap to prevent net-zero from being “undermined by false claims, ambiguity and “greenwash.”

A lack of transparency and uniform standards in net-zero pledges has resulted in a boom in hard to verify claims, the UN experts said. “Using bogus ‘net-zero’ pledges to cover up massive fossil fuel expansion is reprehensible. It is rank deception,” Guterres said. He is also deeply concerned about the lack of “standards,” regulations, and rigor,” in the market for voluntary carbon credits and the use of those credits over a company cutting its own emissions. Among the recommendations in the report, companies can’t claim to be net-zero if they continue to invest or build new fossil fuel supplies, deforestation, or other environmentally destructive projects. The report also said lobbying to undermine ambitious climate policy would also be forbidden.

To achieve 2°C warming targets, fossil fuel use must decline by over 30% from 2019 levels while meeting demand growth



Source: S&P Global Commodity Insights

The S&P Global Commodity Insights Atlas of Energy Transition

An investment management resource

Albert Einstein once said, “you can’t use an old map to explore a new world.” The same thinking was behind the editorial innovations used in the S&P Global Commodity Insights **Atlas of Energy Transition™**. The Atlas is a digitally derived geospatial ecosystem of 70 unique interactive maps designed to help customers navigate the pathway to the energy transition.

The ESRI®-award winning interactive Atlas draws on the combined expertise and content of more than 30 cross-divisional content creators, subject-matter experts, data analysts, editors, and designers from across the global economic, energy, climate, and geopolitical spectrum within S&P Global.

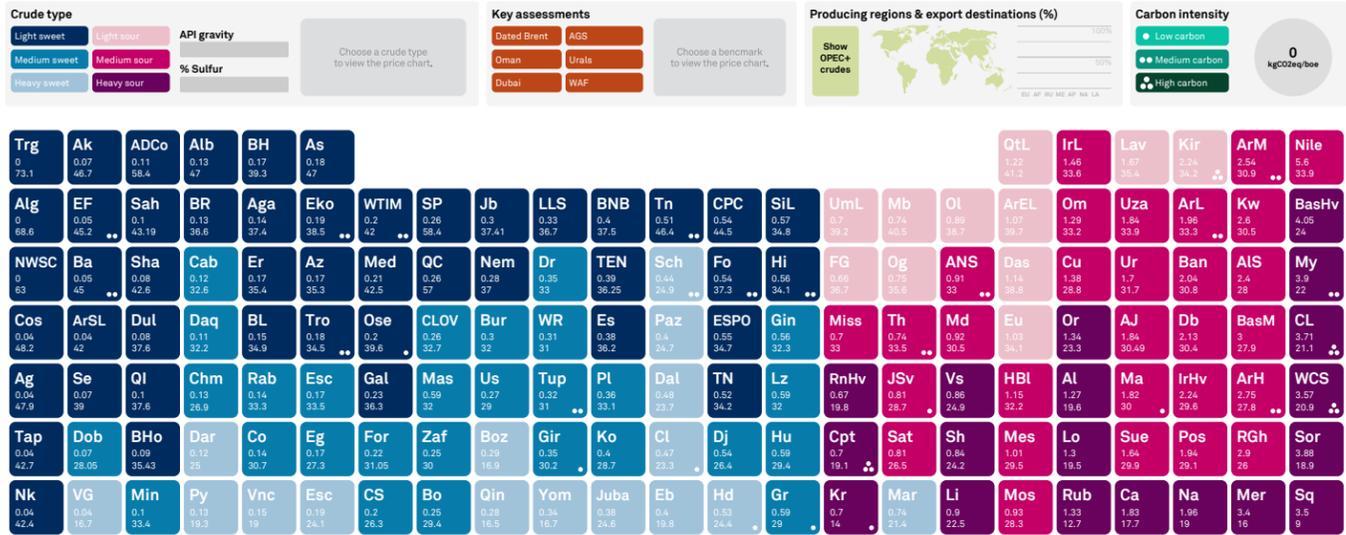
To deliver this unique energy transition investment-management tool, this talented team painstakingly plotted more than 10,000 major energy transition infrastructure sites including hydrogen, solar, wind, nuclear, petrochemicals and metals, in addition to mapping fundamental economic data on emissions across 195 countries and 80 energy transition price assessments. In the process, the team also was first to geospatially code more than 80% of the data used in the maps, which has delivered tremendous depth of previously unrealized insights into the flow of investments in low-carbon communities.

S&P Global Commodity Insights Platts Periodic Table of Oil

S&P Global Commodity Insights Platts Periodic Table of Oil is an essential reference tool for market participants seeking to assess key metrics on 150 of the world’s most-traded crude grades, including production levels, assay, trade flows, origin, associated price benchmark and now carbon intensity.

The carbon intensity capability is another first-to-market, essential capability that enables market participants—sellers, traders, buyers and ESG teams to assess the carbon cost or value of the global slate of crudes. By delivering the PPTO, S&P Global Commodity Insights helps customers better assess the carbon value of crude, enabling them to either purchase offsets for higher-intensity crudes, or to optimize the value of lower-carbon advantaged crudes, bringing greater transparency and efficiency to the market. Ultimately, this clarity enables carbon markets to grow, and helps progress the energy transition.

[View Platts Periodic Table of Oil](#)



COP27 outcomes: A landmark agreement for loss and damage

Following days of tense negotiations, COP27 negotiators achieved what few thought could be accomplished—an historic agreement to establish a fund where wealthier nations pay developing nations for climate damages.



COP27 outcomes: A landmark agreement for loss and damage (continued)



After nearly 30 years of UN climate conferences, the issue of loss and damage payments finally made the formal discussion agenda. Few held out hope that a loss and damage deal could be made amidst the global tensions and growing economic uncertainty, but for representatives of the world's most vulnerable nations, including island nations vulnerable to rising sea levels, this was the line in the sand for climate negotiations and climate justice.

In a statement at the close of the meeting, Lia Nicholson, a representative of the island nation of Antigua and Barbuda said the new fund “must be the lifeboat we need it to be.”

The talks had stalled due to issues over which countries would agree to pay the damages and which countries would be eligible to receive them. The US and Australia were unwilling to sign any agreement that agreed to liability for loss and damages for fear of never-ending litigation. Historically the US has been the largest single emitter of GHG-emissions, followed by other wealthier countries in the EU.

Today, China is the largest emitter of GHG-emissions and both China and India are expected to increase their emissions throughout the decade, spurring countries from the EU to push for a larger contributor base to the loss and damage fund. They argued that not drawing funds from current emitters was unacceptable. Chinese representatives at COP27 said, while their country is open to voluntarily contributing to loss and damage, it should only be an obligation for historically wealthier countries like the US and European Union.

Ultimately, the final COP27 agreement establishes a timeline for negotiators to work out details of the fund over the course of the coming year. Some called the deal weak and vague because it did not specify which countries would be required to contribute or provide a payment timeline, but it does mention “expanding” the sources of funding. And while the prospect of a future fund holds promise, for many of these developing nations, years of waiting for payment for climate change they did not cause has added to their debt burdens and financial challenges in an inflationary environment. The fund is still an empty bank account.

Maisi Rojas, Chile's environmental minister who helped lead the group of negotiators who created the fund called the agreement “historic,” but said there was little reason to celebrate. “Remember, we are talking about loss and damage because we failed to reduce emissions,” she said.

The final agreement did not impose any firm deadlines for new commitments to achieve 1.5°C, though it did reiterate the importance of that goal.

In Glasgow it was agreed countries were supposed to come to COP27 with tighter national commitments to achieve 1.5°C, but fewer than 30 countries did.

COP27 participants left negotiations with the realization that 1.5°C is still not in reach, and emissions must fall by 45% by 2030 to keep that threshold, according to the UN. This lack of progress to impose new commitments to keep from exceeding 1.5°C is threatening the very existence of low-lying nations like the Maldives and Barbados, whose leaders have already expressed that the difference between 1.5°C and 2°C is a “death sentence” that will “sink” their nations.

“What we know is that current commitments will only lead to limitations of an increase of 2.4°C to 2.6°C.”

Roman Kramarchuk
Head of Future Energy Analytics,
S&P Global Commodity Insights

World leaders did not agree to phase down fossil fuels, instead opting to encourage “efforts towards the phasedown of unabated coal power and phase out of inefficient fossil fuel subsidies.”

The final agreement said the world needs to invest at least \$4 trillion every year to create a low-carbon global economy. This type of investment will require a “transformation” of the entire financial system.

The UN also announced an Early Warnings for All initiative to ensure low-income countries have access to multi-hazard early warning systems, including hazardous weather and emergency alert systems.

Despite the geopolitical and economic tensions pulling much of the world's focus away from the COP27 event, some progress was made. The question that remains is how closely world leaders be willing to work with each other and with industries across all sectors of their economies to avert more damage and keep the planet from warming beyond agreed limits that threaten its existence.

More than 150 countries have now signed the Global Methane Pledge to reduce methane emissions, and as many of the agreements announced at COP27 have demonstrated, the next steps for progress may well be advanced by public-private partnerships rather than governments alone. The next UN climate conference, COP28, moves to Abu Dhabi in 2023.

At **S&P Global Commodity Insights** our complete view of global energy and commodity markets enables our customers to make decisions with conviction and create long-term, sustainable value.

We're a trusted connector that brings together thought leaders, market participants, governments and regulators, and we create solutions that lead to progress. Vital to navigating commodity markets, our coverage includes oil and gas, power, chemicals, metals, agriculture, shipping and energy transition.

Platts® products and services, including the most significant benchmark price assessments in the physical commodity markets, are offered through S&P Global Commodity Insights.

S&P Global Commodity Insights is a division of S&P Global (NYSE: SPGI). S&P Global is the world's foremost provider of credit ratings, benchmarks, analytics and workflow solutions in the global capital, commodity and automotive markets. With every one of our offerings, we help many of the world's leading organizations navigate the economic landscape so they can plan for tomorrow, today.

For more about how S&P Global Commodity Insights can help you understand the financial and physical implications of energy markets in transition, visit:

spglobal.com/energy-transition-service