

SUSTAINABLE RECOVERY TRACKER

October 2021 update

International
Energy Agency

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INTERNATIONAL ENERGY AGENCY

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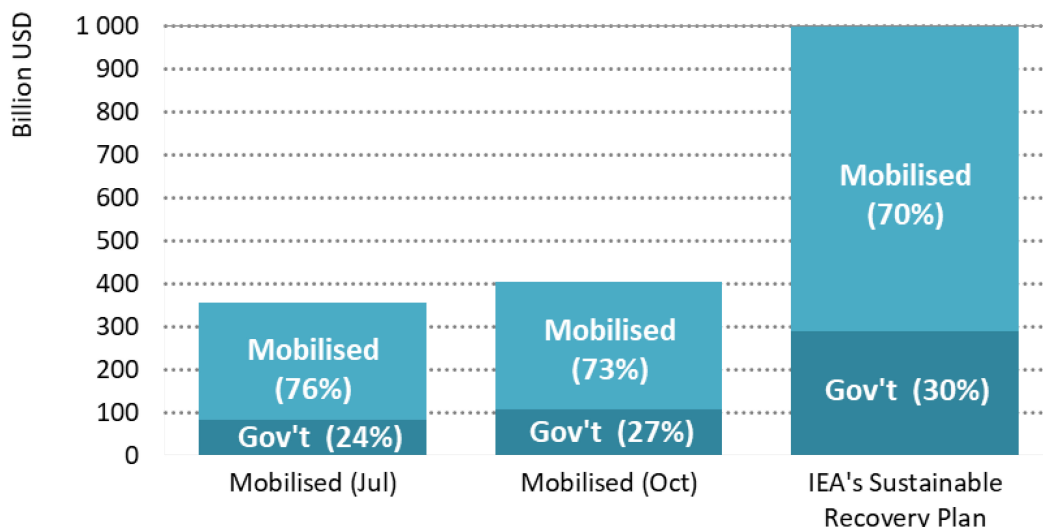
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Key Findings

- At the end of October 2021, national governments globally have earmarked USD 470 billion to clean energy measures as part of their economic response to the Covid-19 crisis, an increase of 90 USD billion or 20% compared with the end of July. This corresponds to around 3% of the total fiscal support unleashed in response to Covid-19 worldwide.
- Government spending rose substantially in energy efficiency, clean fuels and innovation funding, as well as in low-carbon and efficient transport, adding to already strong levels of government support for these areas.
- This spending has the potential to mobilise an additional 400 USD billion a year in public and private clean energy and sustainable recovery measure investment over the 2021-2023 period. This increase would be 40% of the levels envisioned by the IEA Sustainable Recovery Plan over the same period – up from 35% in July. The Sustainable Recovery Plan was released in 2020 to outline a path that would put the world on track for international climate goals while boosting global economic growth and employment. To achieve this, it envisioned the mobilisation of USD 1 trillion in additional annual clean energy spending between 2021 and 2023.
- However, mobilising the additional investment is dependent on the bulk of government spending reaching market actors in the crucial 2021-2023 recovery period. Long lead times for project development and lags in implementation could significantly delay the impact on the real economy.
- Advanced economies continue to lead in clean energy spending by governments, reaching nearly two-thirds of the levels envisioned in the Sustainable Recovery Plan. New infrastructure spending packages currently under consideration in France, Japan, and the United States could substantially increase clean energy investment figures in advanced economies and bring them close to the levels recommended in the Sustainable Recovery Plan. However, further increases in investments in advanced economies will be needed over the rest of this decade to put them on a path consistent with reaching net zero emissions from energy globally by 2050.
- In contrast, government spending in emerging and developing economies remains only around one-tenth of the level seen in advanced economies. Apart from India's *Gati Shakti* infrastructure plan, no notable new spending plans with clean energy provisions are known to be in the works in emerging and developing economies, which currently face the challenges of slower economic recovery and limited fiscal leeway. International catalysts like development assistance could be [key to increasing clean energy investment levels this decade in emerging and developing economies](#).

Snapshot comparison - Government and mobilised sustainable recovery spending in July vs. October 2021



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- This latest update of the IEA Sustainable Recovery Tracker incorporates new appraisals of the employment impact of current recovery measures. We estimate these will increase demand for clean energy workers by 5 million globally by 2023, mostly in the buildings sector. However, even as the demand for workers rises, skilled labour shortages may prevent these jobs from materialising. This would delay the delivery of new projects, thereby slowing economic recovery and the growth of clean energy industries.
- This update of the Tracker adds over 40 new recovery policies – and refines funding estimates for around 140 existing policies – to the more than 800 recovery policies in our [Policies and Measures database](#). The latest estimates reflect newly released details on spending packages and the greater-than-anticipated success of subsidy or tax credit schemes, notably for electric vehicles (EVs), solar and wind, and energy-efficient retrofits of buildings.
- The composition of this spending is misaligned with the portfolio recommended in the Sustainable Recovery Plan. Governments are focusing prominently in sectors which are strategically significant to their economies or where they have pre-existing mechanisms to distribute funding. However, only a balanced, multi-sectoral portfolio of recovery measures would deliver the emissions reductions associated with the IEA Sustainable Recovery Plan. For example, supporting electric vehicles without decarbonising power supply or investing in grid upgrades is less likely to reduce emissions than more balanced clean energy spending across key sectors.
- Recovery plans globally are still insufficient to put emissions into structural decline. Lead times on many recovery measures prevent them from controlling the immediate rebound in CO₂ measures, which is set to be the second largest in

history. Even after the initial economic recovery, emissions continue to diverge from what is needed to reach net zero emissions from the energy sector by 2050.

- [As requested by G20 Ministers](#), the IEA will continue to monitor the impact of national recovery measures on clean energy transitions.

Tracking sustainable recoveries

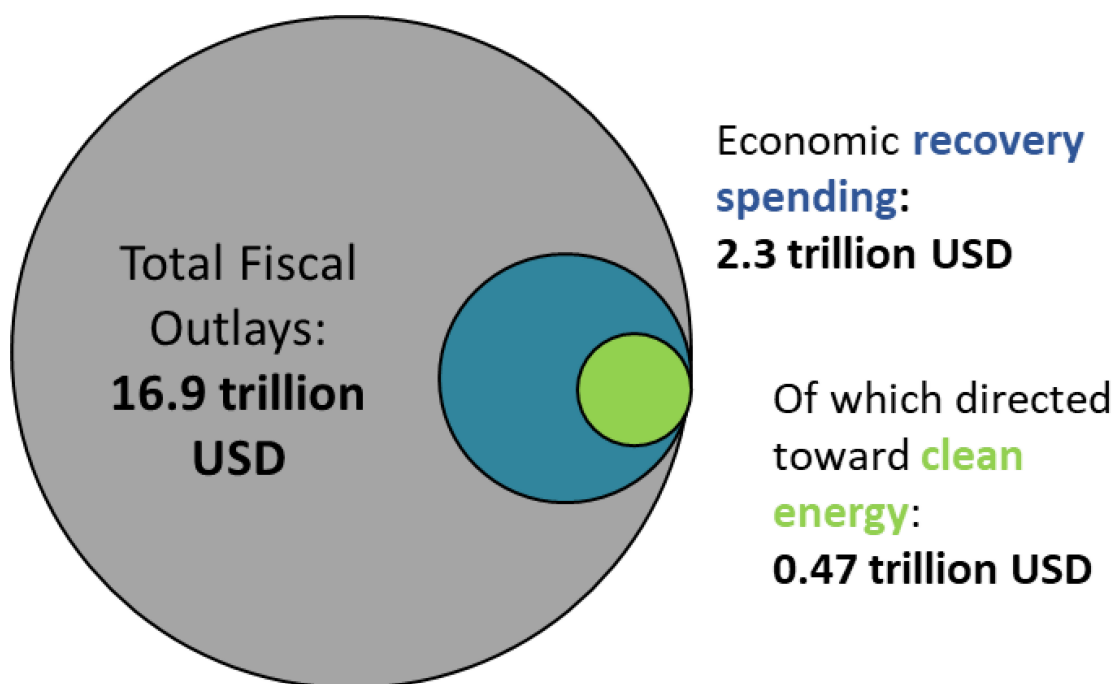
Governments have allocated around USD 470 billion to clean energy as part of their recovery measures

Between the end of July and the end of October 2021, governments added over USD billion 800 in new fiscal outlays to mitigate the effects of the Covid-19 crisis, pushing up the already unprecedented total to 16.9 trillion ([IMF, 2021](#)). G20 economies still account for 98% of the total. The latest wave of measures were largely extensions of existing liquidity support for vulnerable businesses and workers, as well as continued health care expenditures.

Long-term-oriented economic recovery spending directed at long-term investments grew modestly during this period, remaining at around USD 2.3 trillion ([Global Recovery Observatory, 2021](#)). Accordingly, the IEA Sustainable Recovery Tracker only identifies a few new pieces of spending earmarked for newly announced clean energy measures. However, improved and more accurate assessments of existing plans substantially raised our estimate of total government spending. We now estimate the total government spending earmarked for clean energy and sustainable recovery measures is around USD 470 billion – a 20% increase on our July evaluation.¹ The majority of this comes from an updated assessment of subsidies for renewables, EVs, and energy efficiency retrofits, which are growing along with the rebound of consumer spending in some markets.

¹ Our estimates consider all government spending since the start of the Covid-19 crisis in Q2 2020. Clean energy and sustainable recovery measures include investment in wind and solar PV, nuclear and hydro, electricity networks, buildings and industry efficiency retrofits, material efficiency and recycling, new efficient cars and electric vehicles, urban and long-distance transit infrastructure – including bike lanes, biofuels, methane abatement, efficient and low-carbon appliances, clean cooking, and innovation spending in areas such as batteries, hydrogen and CCUS.

Global Covid-19 fiscal outlays and its components: Long-term economic and sustainable recovery spending, as of October 2021



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All in all, government spending on clean energy and sustainable recovery measures is still just 3% of the overall fiscal effort worldwide².

Several countries are still in the process of crafting and approving new spending programmes that would include substantial clean energy provisions. These under-deliberation spending packages – notably in France, India, Japan and the United States – could see significant portions earmarked for clean energy. This includes energy efficiency of buildings; renewable electricity generation and power grids; clean transport; and innovation spending on hydrogen technologies and carbon capture, utilisation and storage (CCUS).

These measures could bring advanced economies – who already represent the bulk of global recovery spending directed towards clean energy – quite close to the levels envisioned in the Sustainable Recovery Plan.

² The IEA Sustainable Recovery Tracker differs from other recovery tracking tools, in that it exclusively monitors, clean energy provisions directly supporting new investment and then estimates what the likely public and private investment increases will be. Accordingly, it does not consider liquidity measures directed to energy or spending that increases other energy investments. Other trackers, such as the [OECD Green Recovery Database](#), cover a broader scope of spending measures and environmental impacts (e.g. biodiversity, water). The OECD Database also does not cover emergency “rescue” funding such as liquidity measures but focuses on a broad scope of recovery spending (i.e. measures aiming at rebuilding the economy in the long-term, by creating forward-looking incentives). The OECD database classifies each spending provision as having a positive, negative, or mixed impact on the environment. The results show different topline percentages: we report that 3% of total fiscal measures will go to increasing needed clean energy investments, whereas the OECD estimates 21% of total economic recovery spending will have a positive impact on the environment, based on a smaller denominator, limited to only recovery spending. In reality, these numbers are broadly aligned, with measures increasing clean energy investment representing 20% of economic recovery measures.

The IEA Sustainable Recovery Tracker

The Sustainable Recovery Tracker was initially published on 21 July 2021, with the support of the Italian G20 Presidency and the IEA Clean Energy Transitions Programme. Current estimates reflect the first update of the Tracker, as requested by the [Joint G20 Energy-Climate Ministerial Communiqué](#).

The Tracker measures global recovery plans against target levels of spending identified in the IEA *Special Report on Sustainable Recovery* (2020), which was developed in collaboration with the International Monetary Fund (IMF).

The Sustainable Recovery Plan set out in the 2020 report estimated that if governments mobilised USD 1 trillion in clean energy investments each year from 2021-2023, it would boost global economic growth on average by 1.1 percentage points a year. Full and timely implementation of the Plan would save or create roughly 9 million jobs and put the world on track to meet its goals outlined in the Paris Agreement. The initial USD 1 trillion spending would mostly originate from the private sector, with only 30% anticipated to come from public sources.

The Tracker relies on extensive policy analysis conducted by the IEA, including new modelling to estimate how much government spending mobilises private sector participation by region and measure type. It includes more than 800 clean energy-related policies following the pandemic induced economic crisis and government spending programmes by country and by sector through the [Policies and Measures \(PAMS\) database](#). It then evaluates the actual impact that government action has on total public and private recovery spending and projects the effect on global CO₂ emissions and employment and GDP trends.

We differentiate three types of government spending in the tracker: 1) **total fiscal outlays** by governments to combat the effects of Covid-19; 2) among this total, **economic recovery measures**, which is non-emergency relief fiscal spending directed toward the development of long-term assets (e.g. building roads, hospitals, etc.); 3) **clean energy recovery spending**, which as part of economic recovery measures, goes toward financing new clean energy assets, decarbonising existing ones or more generally improving the related investment environment. The last type of spending is used alongside the [IEA World Energy Model](#).

Full details of the methodology can be found [here](#).

Government spending is increasingly concentrated on a handful of sectors

Most government spending on clean energy and sustainable recovery measures has been designed to crowd in additional private sector investment through direct spending, favourable regulations, standards or price mechanisms

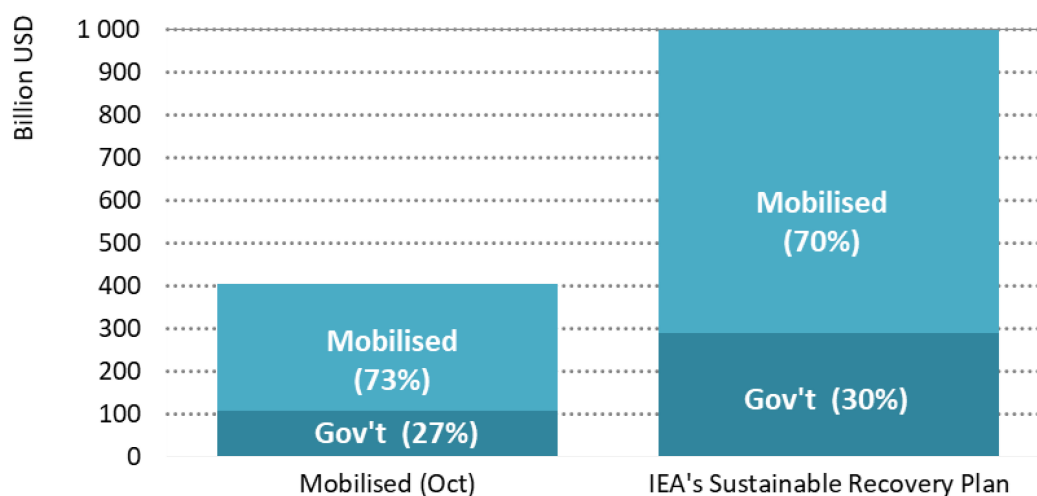
Based on IEA estimates as of October 2021, policies implemented worldwide since the pandemic could mobilise around USD 400 billion a year on average during 2021-2023 in clean energy and sustainable recovery investment by 2023. This amount is around 40% of what is envisaged in the Sustainable Recovery Plan – up from 35% in our July 2021 update.

However, this near-time investment increase is dependent on the bulk of the funding reaching market actors during the crucial 2021-2023 recovery period. Long lead times in project development and implementation delays could result in current recovery measures not reaching the real economy until after 2023.

Since July, our estimate of total mobilised investment (2021-2023) increased roughly by 15% while government spending increased by nearly 20% (2021-2030). This disparity is mostly caused by government spending being tracked between 2021 and 2030 whereas mobilised investment is only estimated up to 2023. However, this disparity also reflects increased attention toward measures that have a greater reliance on government support to drive up investment.

Accordingly, 2021-2023 clean energy and sustainable recovery investments have a slightly higher share of government spending in the latest appraisals. Government spending now represents nearly 27% of the total mobilised investment – roughly in line with the 30% share of public investment recommended in the Sustainable Recovery Plan.

Annual total clean energy and sustainable recovery measure spending by governments, related mobilised investments and targeted levels in the Sustainable Recovery Plan, 2021-2023



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All clean energy sectors attracted increased government spending, with higher levels channelled through pre-existing programmes, which were prioritised to quickly distribute funding and firm up economic activity. Despite this “shovel-ready” approach by policymakers, investment has risen the most in areas of activity where private sector participation was already most active and less reliant on direct government spending. This biasing toward “low-hanging fruit” could mean future spending must be targeted to other clean energy segments to realise the portfolio effects and emissions reductions envisioned in the Sustainable Recovery Plan.

Some governments tried to counteract this bias by removing barriers to increased investment in certain sectors, whether by harmonising rules or easing bureaucratic hurdles. Examples include the Russian Federation (hereafter “Russia”) lifting import taxes on EVs, South Africa exempting smaller power generation projects from licensing requirements, and France harmonising building renovation standards.

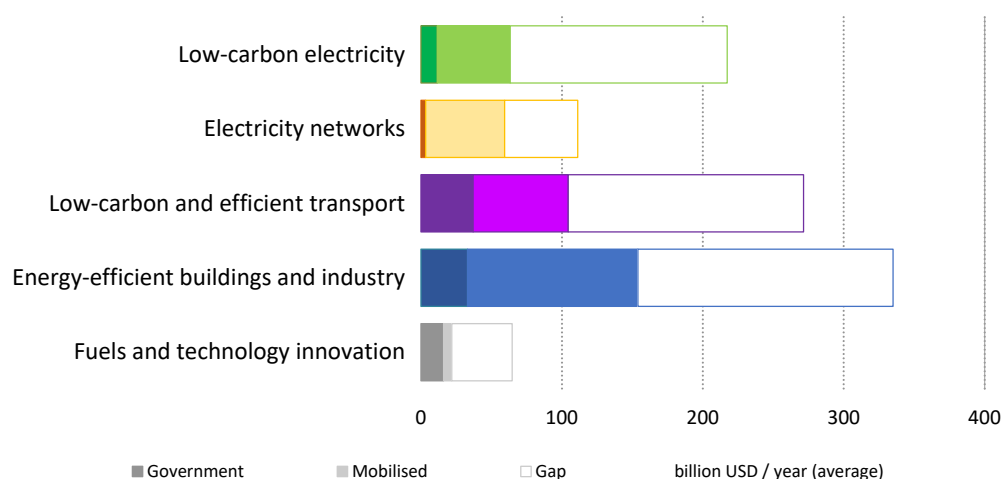
Renewables and grids saw modest increases in direct government spending, but thrived under growing auction-based procurement targets and regulatory approvals for upgrades and new investment. Other clean energy sectors, such as building retrofits and vehicle fleet electrification, benefitted substantially from increased government spending.

Many governments targeted the development or upgrade of mass transit and electricity grids, often in addition to regulators approving new investment that

can be passed on to customers – which continue to play the primary role in increasing investment.

Many countries, particularly within the G7, also made more funding available through existing innovation programmes, often with the aim of spurring global competitiveness in new segments of the clean energy economy. Government spending rose the most in countries with already well established programmes, often including multi-year support to support technology development. Still, these levels remain insufficient to ensure emerging decarbonising technologies are commercially viable within the next decade.

Additional investment by sector compared with levels in the Sustainable Recovery Plan, annual average from 2021-2023



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The updated table below summarises the content of the key sectors that received support and highlights what policies were favoured to administer the funds, as well as the particular challenges to scaling up spending.

Key sectors and policy types in current recovery packages

Sector	What is included?	Government spending on sustainable recovery (annual average 2021-2023 - Billion USD)	Total mobilised sustainable recovery spending (annual average 2021-2023 - Billion USD)	Compatibility with IEA Sustainable Recovery Plan	Common policy types employed	Challenges	Selected measures added since July 2021 update
Low-carbon electricity ³	Solar, wind, bioenergy, hydro, nuclear, and other renewable power	12	52	Medium	Regulated cost-recovery Tax credits Government-backed auctions Improving financial securitisation renewable power	Administrative delays, permitting, interconnection, public resistance to new projects Supply chain constraints Insufficient infrastructure to support construction, especially offshore wind	State-backed loans to accelerate the development of additional nuclear capacity (Brazil) State-backed loans to support PV and offshore wind projects (the People's Republic of China, hereafter "China") Grants for wind power construction studies and planning (Finland)
Fuels and technology innovation ⁴	Hydrogen, carbon-capture sequestration, batteries, small modular nuclear reactors, other digital technologies, biofuels, biogas, and methane leak prevention.	16	6	Medium	Tenders Loan guarantees Subsidies/tax breaks Grants to pilot programmes & RD&D activities International RD&D partnerships/international trade partnerships (H2)	Low rates of return and high cost of capital for pilot projects Know-how & private sector expertise Lack of existing government R&D programmes Private sector may lack ample R&D capacity to respond to incentives Some technologies (H2, batteries) are more favoured than others (Carbon capture, utilisation and storage [CCUS])	Funding innovation in clean fuels, setting up innovation clusters (Croatia) Co-financing an industrial joint-venture in battery cell production (Germany) Injecting additional finance into government funds supporting new hydrogen and industrial carbon capture business models (United Kingdom)

³ The total investment estimates in the low-carbon electricity category were revised downward to reflect delays in project delivery. This was caused by new details on when funding would be made available and reflecting how supply chain disruptions were likely to delay some projects until after 2023.

⁴ The total investment estimates in the technology innovation category were revised downward to reflect more of the available spending through innovation funding to be available for investment after 2023.

Sector	What is included?	Government spending on sustainable recovery (annual average 2021-2023 - Billion USD)	Total mobilised sustainable recovery spending (annual average 2021-2023 - Billion USD)	Compatibility with IEA Sustainable Recovery Plan	Common policy types employed	Challenges	Selected measures added since July 2021 update
Low-carbon and efficient transport	Electric and efficient passenger vehicles, light and heavy trucking, shipping and aviation	13	67	Medium	<p>Consumer subsidies</p> <p>Support and mandates for manufacturers such as subsidies, tax breaks, R&D funding, loan guarantees, fuel efficiency standards</p> <p>Public procurement for public fleets</p> <p>Direct spending/PPPs for infrastructure building (charging stations, low-carbon fuelling)</p> <p>Funding for low-carbon fuelling pilots at ports, cross-docks, and airports</p>	<p>- Local manufacturers not prepared to ramp up production for alternative.</p> <p>- Charging and low-carbon fuelling infrastructure chicken-egg problem.</p> <p>- Targeting infrastructure that will not happen without government support.</p> <p>- Targeting incentives to incremental market</p> <p>- Overcoming public and private company reticence to adopt new technologies</p> <p>- Heavy transport technology not ready for scale.</p>	<p>- Setting up a co-financing programme to develop alternative fuel passenger vehicles (Croatia)</p> <p>- Directly kick-starting the development of a domestic battery and hydrogen vehicle industry and the development of charging infrastructures (Russia)</p>
	Mass transit, rail, urban buses, charging infrastructure, walkways and bikeways.	22		Medium	<p>Direct spending/PPPs for infrastructure building (walkways, bike lanes, multi-modal options)</p>	<p>Co ordination with subnational authorities or SOEs</p> <p>Public approval process of placing infrastructure</p> <p>Infrastructure plans can initially weigh heavily on public budget</p>	<p>Investing in mass transit, walkways and bike lanes (Latvia)</p> <p>Channelling investments through subnational authorities for mass transit (Canada)</p> <p>Providing subsidies to subnational entities improving bike infrastructure (Spain)</p> <p>Subsidising the construction of walkways and cycling (Finland)</p>

Sector	What is included?	Government spending on sustainable recovery (annual average 2021-2023 - Billion USD)	Total mobilised sustainable recovery spending (annual average 2021-2023 - Billion USD)	Compatibility with IEA Sustainable Recovery Plan	Common policy types employed	Challenges	Selected measures added since July 2021 update
Energy-efficient buildings and industry	Energy efficiency retrofits (buildings and industry), efficient appliances, near net zero new buildings, end-use renewables (e.g. solar thermal, geothermal).	33	121	Low	<p>Consumer subsidy & tax incentives</p> <p>Energy efficiency incentives and requirements on utilities and appliance manufacturers</p> <p>Direct spending on public buildings/PPPs for large-scale retrofit plans</p> <p>Free efficiency audits</p> <p>Local energy efficiency funding distributors, with accredited practitioner network</p>	<p>Effective channelling depends on pre-existing energy efficiency programmes</p> <p>Subsidies and tax break effect will ultimately depend on consumer's budget</p> <p>Higher cost financing due to small projects and revenue streams from efficiency hard to count as secure revenue</p> <p>Payback risks if ownership changes hands, or business longevity is uncertain</p> <p>Lack of qualified practitioners make retrofits fall short of potential</p>	<p>Financing EE in industry (Morocco)</p> <p>Co-financing EE upgrades and off-grid RE construction by SMEs (Chile)</p> <p>Funding housing and industry EE retrofits (Ireland, Spain, Croatia, Slovenia)</p> <p>Extending a national subsidy scheme for industry EE retrofit (Spain)</p> <p>Providing a 110% tax exemption for home owners EE retrofits (Italy)</p>
Electricity networks ⁵	Transmission, distribution, grid-side batteries, smart grid investment.	3	56	Low	<p>Regulatory request to operators to build and upgrade infrastructure (resilience, RE integration, digitalisation)</p> <p>New outcome-based regulations and rate of returns</p>	<p>Public resistance to new large projects</p> <p>Administrative burden may delay projects</p> <p>Ailing utility balance sheets.</p> <p>New resiliency and cybersecurity concerns add requirements before implementation</p>	<p>Commissioning grid renovation and standardisation in underprivileged neighbourhoods (Colombia)</p> <p>Injecting investments to modernise electricity grid (Latvia)</p>

⁵ Electricity networks are estimated to see a large increase in total investment due to recovery measures despite minimal recovery spending. This is because many packages relied on existing regulatory models to increase spending (e.g. approving new regulator repayment of grid upgrades and expansions) without requiring an increase in direct government spending or reducing government incomes in the near-term.

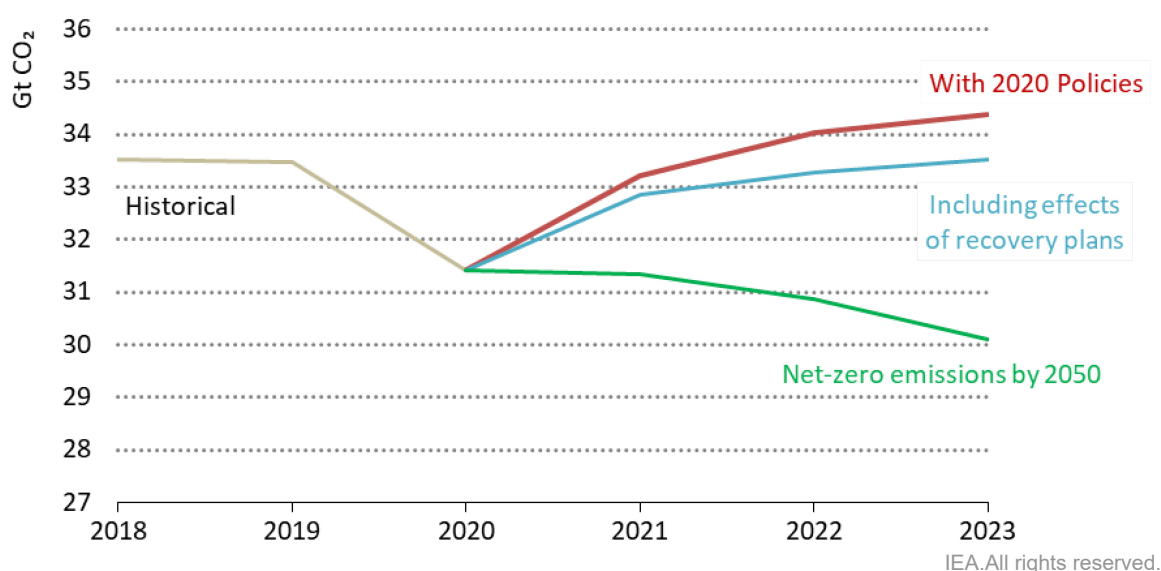
Sector	What is included?	Government spending on sustainable recovery (annual average 2021-2023 - Billion USD)	Total mobilised sustainable recovery spending (annual average 2021-2023 - Billion USD)	Compatibility with IEA Sustainable Recovery Plan	Common policy types employed	Challenges	Selected measures added since July 2021 update
People-centred transitions	Just transition mechanisms, worker training programmes, research programmes on market and social transitions.	<1	N/A	Low	Funding for training programmes Targeted support (subsidies/tax breaks/direct infrastructure spending) for vulnerable SMEs, local communities depending brown sectors or low-income households	Know-how essential to tailor and direct support Co-ordination with subnational authorities Lack of appropriate training offer Attracting new enterprises to regions in decline	N/A
	Access to clean cooking, electricity access by grid extension, minigrids, or stand-alone power systems. Basic, efficient appliances.	<1		Very low	Emergency relief for households: (bill deferral/cancellation/subsidy, distribution of LPG cylinders) Emergency relief for energy companies (liquidity injections, state guaranteed loans) Subsidies and preferential loans for RE & isolated micro-grids	Difficult to continue affordability support beyond initial pandemic Financial difficulties of utilities and energy companies (notably SOEs) Emerging Markets and Developing Economies's (EMDE) restricted fiscal leeway Lack of programmes to support access in remote areas	N/A

The world is still set for a rebound in CO₂ emissions with recovery plans not being felt until later in the decade

Global energy-related CO₂ emissions are currently on track for the second largest single-year rebound in history in absolute terms, erasing most of the pandemic-related reduction from 2020. This 2021 rebound has been driven by increased electricity consumption, particularly in Asia, where coal power generation is prevalent. Infrastructure spending has featured in many recovery plans, particularly in emerging market and developing economies, and the demand for material inputs has contributed to rising emissions.

Many national recovery measures have limited effect in the short-term in mitigating the global recovery's emission trajectory, but do result in structural reductions in emissions intensity in subsequent years. However these long-run effects are still insufficient to put emissions into a structural decline, leaving the world far from the pathway to net zero emissions by 2050 outlined in the recent IEA [World Energy Outlook](#). Furthermore, even in regions where investment levels are nearing that of the Sustainable Recovery Plan, the composition of recovery policies enacted are not balanced, and will not capture the full emissions reduction potential—for instance where electrification of transport is emphasised without decarbonising electricity sufficiently.

Energy-related CO₂ emissions under different trajectories, 2018-2023



This update to the tracker includes new analysis on how recovery plans could bolster the clean energy workforce

From the outset of their policy response to the Covid-19 crisis, governments targeted spending to protect jobs in endangered sectors and boost the domestic workforce in emerging or strategic sectors. Eager to maximise employment early in the recovery period, they implemented measures aimed at near-term increases in employment, such as energy efficiency upgrades and urban transport infrastructure. By comparison, investments in electricity grid, renewables, and innovation projects tend to translate into longer-term job growth.

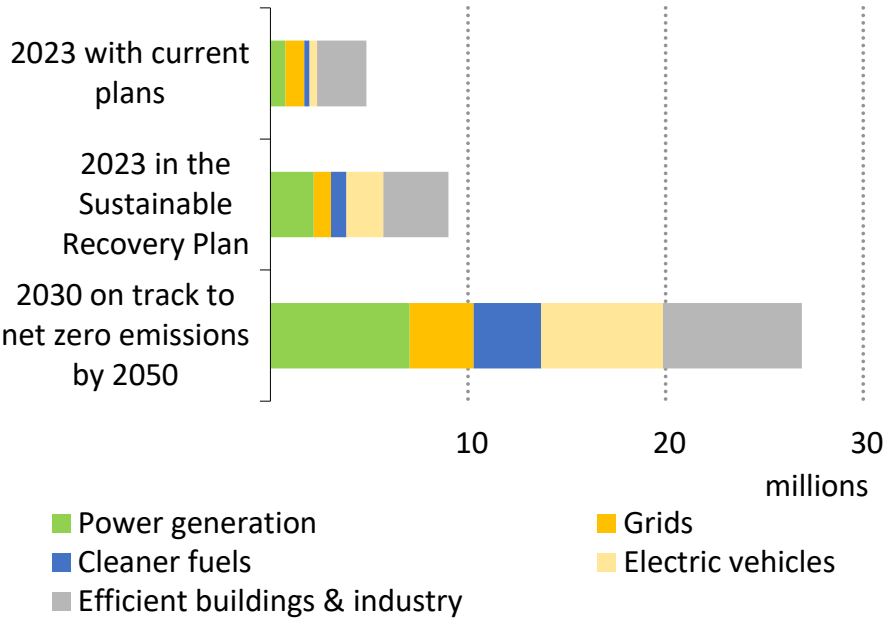
Current government spending is set to increase demand for workers in clean energy by nearly 5 million globally by 2023.

The majority of these positions are highly skilled. Finding sufficiently experienced workers in the needed sectors and regions could be a substantial bottleneck that delays getting projects underway. For example, major firms say they cannot handle the rapid growth in demand for new electricity grid projects, citing an inability to hire qualified new employees as a major constraint on delivering new projects in a timely manner. This poses major threats to boosting investment within the 2021-2023 period.

In advanced economies, several regions allocated funding to support training programmes, especially those that allowed remote learning during confinement periods. Increasing retraining support will help avoid a persistent skill gap as these industries continue to ramp up after the recovery time-horizon.

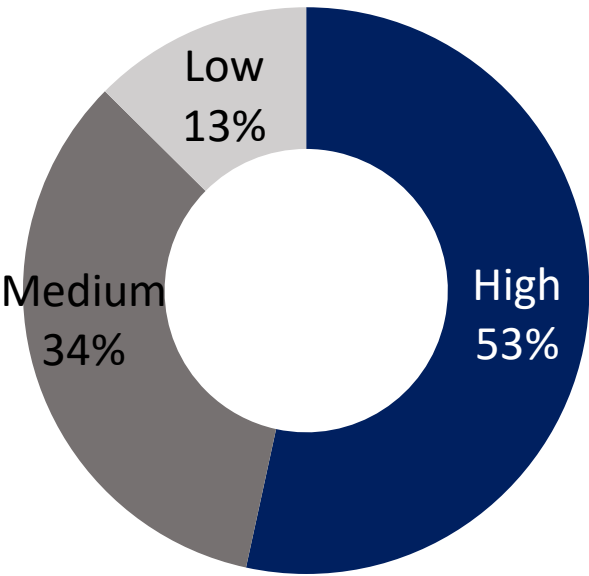
Many recovery measures also directed dedicated support to developing domestic manufacturing in emerging industries, both to create in-country jobs and to avoid future supply chain disruptions similar to those seen during the pandemic and its aftermath. This spending can provide an important runway for sustained employment as industries grow out to 2030, and help firms improve their global competitiveness in emerging industries.

Clean energy jobs created by scenario, 2023 and 2030



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Job demand created by skill level under current recovery policies, 2023



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Advanced economies poised to reach target spending levels, while emerging market and developing economies lag with limited options.

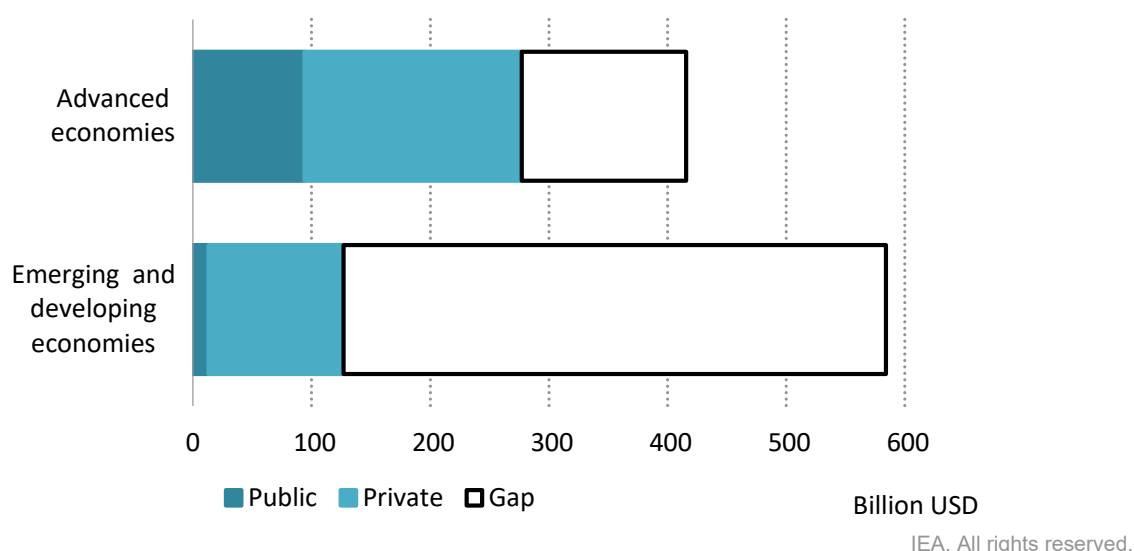
The gap in sustainable recovery spending between advanced economies and emerging market and developing⁶ economies is still prevalent, with the former mobilising nearly ten times public and private funding for clean energy through recovery measures than the latter.

Government spending in advanced economies is likely to mobilise enough investment to reach two-thirds of the total investment levels cited in the Sustainable Recovery Plan. Advanced economies could be in range of fulfilling their share of the Sustainable Recovery Plan should plans under discussion in the United States, France, and Japan come to fruition and include sufficient levels of clean energy spending.

However, the current distribution of recovery spending does not represent a balanced portfolio of measures, and threatens the ability for these recovery measures to deliver the emissions reductions envisioned in the Sustainable Recovery Plan. Some regions have laid out broadly balanced spending plans, but many over-emphasise strategically interesting sectors or over-rely on existing programmes to quickly mobilise funding. This may lead to excess allocation in certain sectors within a single geography.

Even if these estimated levels of government spending were hit, further government outlays would be needed after 2021-23 in order to continue to ramp up investment in clean energy consistent with the IEA Net Zero by 2050 Scenario.

Government spending and potential mobilised investment in advanced economies and in emerging and developing economies compared to levels in the Sustainable Recovery Plan, 2021-2023



⁶ Emerging market and developing economies includes China.

Conversely, government spending in EMDEs remains one-tenth of levels in advanced economies. This positions them to only reach 20% of the levels of total investment targeted in the Sustainable Recovery Plan.

This poses substantial challenges to scaling up clean energy investment in EMDEs, where two-thirds of next decades' clean energy investment needs to occur if we are to be on track for mid-century global net zero emissions.

Furthermore, few new spending plans with clean energy provisions are in the works in these countries, apart from India's recently announced *Gati Shakti* infrastructure plan. This suggests international catalysts like development assistance [could be key to increase clean energy investment levels within this decade](#).

International support is needed to elevate investment levels in emerging market and developing economies with limited fiscal resources.

Post-Covid-19 recovery is likely to be uneven worldwide, with a slower recovery in EMDEs, many of whose governments may soon run out of options to support economic growth (see box below). Already, [some emerging and developing economies governments are withdrawing fiscal support](#).

Development banks and other international financial institutions reacted swiftly at the start of the pandemic by implementing emergency support through extended lending facilities, and setting up debt relief or reimbursement alleviation instruments, such as the G20 Debt Suspension Initiative, or the IMF Catastrophe Containment and Relief Trust. [Initial estimates on flows from Development Assistance Committee \(DAC\) countries indicate official development assistance, channelled bilaterally or through multilateral institutions, increased to a record USD 161 billion in 2021](#). However, only USD 3.2 billion of this additional international support is estimated to have gone to non-health, economic recovery measures. Support to clean energy transitions would be a small fraction of this.

Looking ahead, international emergency lifelines are expected to end in the near-term. Current uncertainties on growth and inflation prospects also risk mitigating investors' appetite in the energy sector. Longer-term international support will be key to repair the lasting setbacks brought by the crisis on economic and social development trajectories and accelerate clean energy investment.

Covid-19's impacts increases the challenges for financing clean energy transitions in emerging and developing economies

Although economic projections show global economic recovery to be underway worldwide, emerging and developing economies generally have bleaker growth perspectives, notably over the next 5 years. This imbalance in prospects led the World Bank to highlight the “lasting scars” in low-income countries linked to the pandemic. Although international trade has picked up and commodity prices are rising, benefitting key exporters, many emerging and developing countries are still seeing limited progress in vaccination which continue to constrain their domestic activity.

These longer-lasting impacts are likely to make it harder still for EMDEs to pay for and finance clean energy transitions, underscoring the importance of international support. Some of these impacts include:

Slower progress on energy access: The crisis translated in a rise in poverty levels, partly obliterating progress on access to electricity and clean cooking. The number of people without access to electricity is set to rise by 2% in 2021, mostly in sub-Saharan Africa, where the number of [people without access increased in 2020 for the first time since 2013](#). Procurement delays and supply chain disruption hindered access-related projects and prevented off-grid operators from continuing to extend their operations. Although poverty impacts have recently been revised in a more optimistic direction, the current energy price spikes – partly linked to the aftermath of the pandemic – have started to impact many developing countries, adding uncertainty to the outlook on energy access progress in the coming years.

State-owned enterprises (SOEs) have weaker financial outlooks: In most EMDEs, SOEs have a leading role in the energy sector. They are often relied upon for advancing energy investments – including clean energy – in lieu of direct government spending. Many SOEs saw their debt levels rise during Covid-19, often by shouldering some customer non-payments. Current uncertainties on growth prospects are also mitigating investors' appetite for projects based on long-term returns or with a higher risk profile, such as infrastructure and innovation. Combined with increased difficulties from EMDE governments to obtain financing from international capital markets, the current situation is one in which financing options are particularly constrained in the energy sector.

EMDEs face depleted fiscal reserves: The initial wave of recovery measures focused on emergency support and absorbed much of the fiscal leeway afforded to EMDE governments. Further economic contraction or sustained high fossil fuel prices would further deplete available domestic financial resources, both in the private and public sector domains. Forced prioritisation of limited fiscal resources to emergency measures, notably if governments are compelled to implement tax relief, would come at the expense of a longer-term sustainable recovery.

Over the long run, governments have a critical role in scaling up private capital by reducing investment risk in clean energy, removing market and price distortions, and improving domestic sustainable finance frameworks, notably by linking financial support to state-owned enterprises with sustainability criteria. But as these reforms take shape, international catalysts like concessionary loans are likely to be among the best options to kick-start and mobilise clean energy investment.

Recent calls and announcements in the UN General Assembly to increase international climate financial flows show many donor governments recognise the importance of supporting emerging and developing economies in their clean energy transitions to ensure a cost-effective global action against climate change. This includes fulfilling the commitment by advanced economies to mobilise USD 100 billion per year of public and private climate finance, which includes a range of interventions beyond clean energy. Multilateral development banks have doubled their climate finance commitments over the last 5 years to reach USD 65 billion in 2020, or a third of their total financing. However meeting net zero goals depends on reinforcing such commitments, boosting delivery and improving effectiveness of public sources to mobilise higher amounts of private investment.

Globally, around USD 4 trillion in clean energy investments need to materialise each year by 2030, with up to two-thirds of that total in EMDEs. While most of this investment in EMDEs would come from private sources, mobilising such an increase in capital depends on the catalytic role of public finance institutions – both domestic and international actors – whose clean energy investment climbs to over USD 200 billion by 2030 in the Net Zero Emission scenario. Rising to the challenge will require deeper changes in international financial systems. As put forward in the IEA special report on [Financing Clean Energy Transitions in Emerging and Developing Economies](#), now is the time to reinforce the mandates and boost delivery of capital from international financial institutions towards clean energy transition investment.

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