CATALYSING EUROPE'S ENERGY TRANSFORMATION
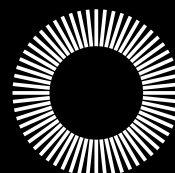
**BRIEFING PAPER FOR
EUROPE'S ENERGY EARTHSHOT**
26, 27, 28 OCTOBER 2022
2-5PM CEST

EUROPE'S
ENERGY
EARTHSHOT

Europe's Energy Earthshot is a whole-of-system design process for catalysing the continent's energy transformation. It is organised by The B Team in collaboration with Fearless Women, an informal coalition of leaders from business, politics and civil society. For more information, please visit www.energyearthshot.eu.

The B Team is a collective of global business and civil society leaders driving a better way of doing business for the wellbeing of people and the planet. Founded in 2013, The B Team advocates for economic systems change and new corporate norms — to protect our natural environment and secure a safe, sustainable and equitable future for all. More information is available at bteam.org and NewLeadershipPlaybook.org.

Acknowledgements

Every effort has been made to verify the accuracy of the information contained in this paper. All information and references were believed to be correct as of October 2022. The B Team cannot accept responsibility for the use of this paper for other purposes or in other contents.

CONTENTS

The Moment:
Urgency, opportunity & risk

We are in the race of our lives to combat climate change and transition to clean energy. Record heat and drought, flooding and other natural disasters are the consequence of our fossil fuel consumption — the inheritance we will leave future generations if leaders fail to act now, urgently and together.

We must catalyse change at speed and scale. This is an Earthshot moment.

This moment is also one that challenges Europe's ambition to lead the world on clean energy and climate action. Russia's war in Ukraine continues to prompt EU, UK and US and other sanctions, which have included restrictions on Russian fossil fuel imports. While European states scramble to secure and ration gas, food and energy prices have skyrocketed. Europe is grappling with record inflation, which presents a clear recession risk. Families and small businesses, already struggling, face a cold, uncertain winter.

Even if political leaders focus on short-term solutions, their choices will have long-term impact for Europe and the world.

The existential climate threat. War in Europe. An urgent, cost-of-living crisis. Europe's energy system is central to all three.

The Earthshot:
Collaborate, co-create & act

Europe's Energy Earthshot brings together diverse leaders and stakeholders from across the energy system to accelerate Europe's energy transformation. This collaborative design process is underpinned by a strengths-based engagement model known as Appreciative Inquiry — a positive, whole-of-system approach to finding common ground and catalysing action. Communities of leaders have used Appreciative Inquiry successfully in a variety of settings, including the creation of the UN Global Compact Principles.

David Cooperrider, founder of Appreciative Inquiry and a professor at Case Western Reserve University, is lead facilitator for Europe's Energy Earthshot. A three-part agenda will create space for participants to discover & dream, design and generate momentum towards Europe's clean energy destiny.

Europe's Energy Earthshot is a vehicle for activating leadership across the energy system. Together, participants will mobilise support for the highest priority policy reforms; new leadership norms; technological and financial innovations and community- and country-level actions. The aim is to deliver actionable initiatives that accelerate the energy transformation we need in Europe.

Although this is a European earthshot, a just energy transition is a global issue and imperative. Our aim is to create a global movement that catalyses change. Earthshot participants will consider how Europe's energy choices have an impact on the global transition — and people, livelihoods and communities around the world.

The Terrain:
A holistic view of Europe's energy system

Energy is part of every facet of modern life, every day. Energy powers industry and infrastructure, hospitals and homes. From individual consumers to energy suppliers, young people to policymakers, frontline workers to investors — every European has a stake in the energy system.

For decades, Europe's energy system has offered stability and powered growth across the continent. Built on fossil fuels, this history of reliability and growth now gives way to a fraught legacy.
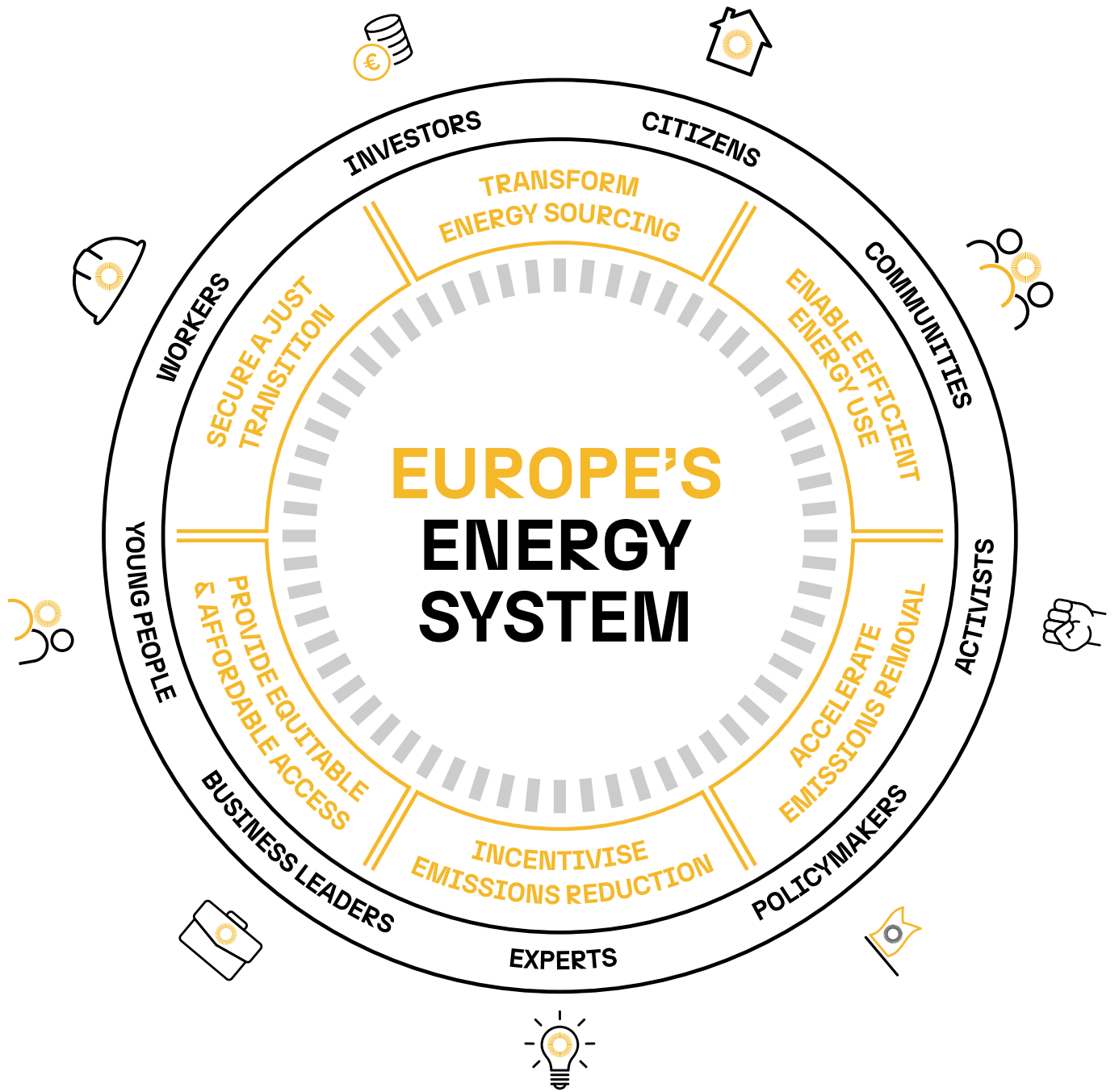
Over the past 15-20 years, however, Europe's energy sector has begun to embrace innovation with renewable energy sources. Most recently, roles are shifting: more homes and businesses are also now producers and suppliers of energy. Still, large incumbent providers play a dominant role in shaping the policy landscape, and the continent's ageing energy infrastructure remains in serious need of modernisation.

Below are six themes for framing a holistic view of Europe's energy system — and for better understanding how its many, diverse users benefit from a cleaner energy future.

The supply side is where and how energy is produced, delivered and by whom. The supply side challenge is to transform energy sourcing at scale, with a focus on improving energy efficiency and scaling renewables. The demand side is the consumers, from government agencies to businesses to families, who use energy. The first, and often overlooked, way to address demand is to enable efficient energy use. Reducing emissions also means ambitious reductions in the use of fossil fuels. This includes enhancing efforts to develop and deploy technologies that incentivise emissions reduction and removal.

Energy is not a luxury good. Safeguards, including the provision of equitable and affordable access to energy, are needed for those whose health, safety and livelihoods are at risk when the system falters. This extends to support for those whose employment prospects are forever changed as clean energy generation and system-wide decarbonization accelerate. A transformed energy system must secure a just transition, as it transforms our production, delivery and use of energy in the future.

The question of finance is key to Europe's energy system and the climate crisis. Public finance takes many forms, from subsidies and tax incentives, to tax on carbon or other resources, to public-private (blended) finance schemes. Across the EU, annual investment of up to 377 billion euro is needed to achieve a 55% cut in greenhouse emissions by 2030. Major investment will be required to accelerate further decarbonisation of the energy system. Private sector finance, from social impact investors to major asset managers, is poised for historic investments in Europe's energy transformation.

EUROPE'S ENERGY SYSTEM

TRANSFORM ENERGY SOURCING

SECURE A JUST TRANSITION

ENABLE EFFICIENT ENERGY USE

ACCELERATE EMISSIONS REMOVAL

PROVIDE EQUITABLE & AFFORDABLE ACCESS

INCENTIVISE EMISSIONS REDUCTION

INVESTORS

CITIZENS

COMMUNITIES

WORKERS

ACTIVISTS

YOUNG PEOPLE

POLICYMAKERS

BUSINESS LEADERS

EXPERTS

1.
TRANSFORM
ENERGY
SOURCING

ADDRESSING THE GEOPOLITICS OF ENERGY SUPPLY AND THE GLOBAL RACE FOR RENEWABLES

- How can we ensure that short-term energy solutions are sustainable in the long term?

- What type of incentives and investments in technology and infrastructure are needed?

- How can we support cross-border collaboration and commit to actions that support sustainable development beyond Europe?

Current Context

Sourcing: In 2020, the EU imported 58% of its energy. Although a significant amount (41%) produced in the EU is renewable and nuclear, the region's gas imports have been tied to three main countries: Russia, Norway and Algeria. Russia supplied ~40% of Europe's natural gas before the war in Ukraine. The subsequent fall to current levels (~15%) have resulted in a significant supply gap for the EU, forcing it to look for alternative sources for their energy requirements. At the same time, the EU has committed to cut its reliance on Russian gas by over 60% by the end of the year, and is accelerating plans to make the EU independent of Russian fossil fuels by 2030.

In 2020, renewable energy sources accounted for two-fifths of electricity and overtook fossil fuels (36%) as the main power source for the first time. The production of energy is very different from one EU country to another. Nuclear energy production, for example, is particularly high in France and Belgium.

Europe is challenged with an ageing energy infrastructure, recently evident in France's nuclear energy sector. Even with the advent of considerable renewable energy sourcing, European countries must continue to improve infrastructure and promote connectivity across national energy systems. Just this year, the EU has revised its Trans-European Networks for Energy (TEN- E) to bring much greater focus on priorities in line with climate change and decarbonisation goals.

Emissions: The energy sector is responsible for more than 75% of the European Union's greenhouse gas emissions. The EU faces a dual challenge when it comes to transforming its energy mix: meeting its emissions reduction targets of 55% by 2030 and ensuring steady supply to meet the region's needs.

Climate changes are also being felt across industry, including the energy industry. The drop in major river cargo routes has caused significant shipping disruption across Germany and the Netherlands. In addition, the drought has forced a significant reduction in both nuclear and power plant operations, given higher river temperatures and general water shortages, further compounding the energy supply challenges already felt by the region.

Shortages: The urgent problem facing the EU now is gas supply for the winter of 2022-23. If there is not enough gas for heating, the shift to electricity for heating purposes could lead to power blackouts. To stave off shortages in preparation for winter, governments in Germany, the Netherlands, France and Italy have refilled gas inventories to 90% capacity. Another key challenge for the EU is how to provide more flexibility within the power system, which at the moment is reliant on gas and creates a link between gas and electricity security.

The EU is turning elsewhere to compensate for the fossil fuels no longer purchased from Russia. In 2022, the share of liquified natural gas (LNG) imports has already grown significantly. The EU and member states have entered into various gas supply deals around the world, including in Africa, as part of diversification efforts. For example, Italy has signed a €4bn deal with Algeria, which will become Italy's biggest gas supplier. Companies are considering LNG projects totalling $100 billion on the African continent. Going forward, the focus is increasingly on how European leaders are leveraging this moment to accelerate and scale renewable solutions — rather than deepen the continent's fossil fuel dependency.

Policy Levers

As a starting point, the European climate law turns the political ambition of reaching climate neutrality by 2050 into a legal obligation for the EU. By adopting this law, the EU and its member states have committed to cutting net greenhouse gas emissions in the EU by at least 55% by 2030.

The European Green Deal, launched in 2019, is a package of policy initiatives that aims to set the EU on the path to a green transition and achieve its 2050 ambition. The "Fit for 55" legislative package (2021) contains a set of proposals to support the EU and its member states' efforts to achieve their climate goals. In a unified response to Russia's war in Ukraine, the EU announced a new set of proposed actions in May 2022 called "RePowerEU," to ease elevated energy prices, support emissions reductions and phase out the EU's dependence on Russian fossil fuels before 2030. Key actions proposed include diversifying gas supplies, rapid reduction of fossil fuel dependence, energy efficiency measures to reduce consumption and creation of the EU Energy platform. Policies like RePowerEU and Fit for 55 address the need for more renewables, energy storage and energy savings, and create a promising framework for further solutions.

Renewable energy production has grown significantly in Europe in recent years. The cost of solar power has decreased by 82% over the last decade, making it one of the most competitive sources of electricity. Predictably, significant solar power has come on to the grid in the past few years. The Solar Energy Strategy under the RePowerEU plan aims to bring online double the amount of solar by 2025 (compared to 2020) and nearly triple the amount by 2030. Wind power, mostly onshore, also increased in 2021, with the UK leading on offshore installation. Despite this promising growth, experts worry that Europe is only building half the new wind energy capacity needed to achieve 2030 goals.

Renewables and electricity uptake, particularly of end-use sectors such as transport, buildings and industry, have the potential to displace significant percentages of fossil fuel use.

However, permitting both for wind and solar projects has been a major bottleneck. The European Commission has now proposed a substantial reduction of permitting timelines. Industry associations like Solar Power Europe suggest that in order to reduce permitting times in practice, there is a need for dissemination of best practice for permitting rules and a public education campaign to boost acceptance of projects. On the electrification side, barriers to increased electrification include an electricity price structure that is overburdened by taxes and subsidies, inadequate information for consumers and installers, lack of training in the installation and use of the technologies and a lack of proper access to financing.

Green hydrogen can also play a role in reducing emissions in sectors where electrification is difficult. A green hydrogen economy requires the development of infrastructure, and a significant scale-up of wind and solar to produce this 'green' low-carbon/carbon-neutral gas. There are currently a range of projects in the green hydrogen pipeline with the potential to produce green ammonia and fertilisers, but many more are needed to achieve scale. There is concern from the sector about the EU getting the rules right on integrity, while not overburdening project development.

Bioenergy — biomass, biofuels and biomethane — is produced and derived from organic materials and can be used for heating, electricity generation and transport fuels. These sources are important for decarbonisation in the effort to lower the EU's external energy dependence. Within the RePowerEU plan, biomethane production needs to reach 35 billion cubic metres (bcm) per year by 2030. However, bioenergy is also subject to strict sustainability criteria, to avoid negative environmental impacts or land-use conflicts with agriculture. When produced using waste, however, there is significant potential for a circular economy. To accelerate sustainable production and uptake of bioenergy, there is a need for policies and approaches that support this circular approach and improved understanding of potential opportunities as well as challenges.

Initiatives

- In June 2022, the Danish government and other political parties in the country agreed to form a green fund to finance the low-carbon transition. The nearly 7 billion-euro fund receives support from a broad range of stakeholders and is designed to support Denmark's bold 2030 climate target of slashing emissions by 70%. Experts have outlined five ambitious goals for the country, including massive scale up of North Sea offshore wind and an end to fossil fuel use by 2040.

- The new EU Energy Platform will play a key role in pooling and aggregating demand, coordinating infrastructure use, negotiating with international partners and preparing for joint gas and hydrogen purchases.

- Google has implemented "carbon-free energy targets," through which they match electricity consumption with renewable energy generation on an annual basis - and purport this can be done on an hourly basis.

2.
ENABLE
EFFICIENT
ENERGY USE

**REDUCING CONSUMPTION
AND MANAGING DEMAND
ACROSS THE ENERGY SYSTEM**

- What measures most influence behaviour change towards efficient energy use?

- How can citizens and communities expand energy efficiency measures?

- What is the responsibility of business and industry with regard to improving efficiency and energy intensity at scale?

Current Context

Energy efficiency and reduced consumption have transformative potential when it comes to climate change. Not only does increased efficiency lower emissions, there is a significant, corresponding cost savings to wasting less energy in our homes, businesses and public buildings and spaces.

Industry consumes the most energy in the EU (32 % of final energy consumption), followed by the transport sector (26 %), households (25 %), services (12 %) and agriculture & forestry (3 %). These sectors have both a responsibility but also an opportunity to reduce energy consumption and costs by engaging in energy efficiency measures. The IEA, in collaboration with the EU, have outlined a number of steps that individuals can take to reduce their energy use and save money. Estimates indicate that turning down the thermostat by just 1 °C, for example, would save around 7% of energy used for heating, while setting an air conditioner warmer could reduce the amount of electricity used by up to 10%.

Petroleum products represent 35 % of final energy consumption across the EU in 2020, followed by electricity (23 %) and natural gas and manufactured gases (22 %). By increasing energy efficiency and switching to renewable energy, 1200 THh of gas demand could be saved over the next five years, amounting to a €127–€318 billion reduction in gas consumption. Due to the current gas shortage, EU Member States are now required to meet the gas demand reduction target of 15%.

Energy efficiency measures such as electrification, behaviour change, digitalisation and material efficiency can reduce reliance on gas and play a central role in buying time for deployment of renewables to catch up with rising clean energy demand. Increased electrification, in particular, can generate substantial energy savings thanks to higher efficiency.

Policy Levers

To meet the goal of reducing emissions by 55% by 2030 and, at the same time, accelerate the reduction of demand for Russian gas, the RePowerEU plan has increased to the binding EU energy savings target for 2030, from 9% to 13%. EU countries are also required to build efficiency targets in their National Energy and Climate Plans.

One area where investment in energy efficiency could have a large impact is buildings. The electricity and fuel used to heat, cool and light buildings account for more than 30% of energy consumption in Europe and are responsible for around 35% of greenhouse gas emissions. Energy consumption in buildings has decreased since 2008, in particular due to the efficiency improvements in the residential sector. Further energy efficiency gains could be made possible through electrification and deployment of heat pumps, and accelerating the switch to LED lighting, which currently account for about half of installed lighting. The Energy Performance of Buildings Directive (EPBD) sets out how Europe can achieve a zero-emission and fully decarbonised building stock by 2050: through performance and mortgage standards, as well as other incentives.

Achieving climate neutrality will need a 90% reduction in transport emissions by 2050. Modal shifts in transport to more energy efficient transport methods — such as the shift from aviation to rail, or car to public transport — are key to improving sustainability of transport. There is an increasingly prominent role for electrification of the vehicle fleet.

In Europe, transport still relies on oil for 94% of its energy needs. According to studies from the European Environment Agency, GHG emissions from transport have increased every year since 2014. The share of renewable energy used for transport in the EU is still well below the EU's 2020 target of 10%. Urban mobility is a significant opportunity area: 70% of all Europeans live in cities, which are the source of more than 23% of all the greenhouse gas emissions generated by the transport sector. In 2021, the European Commission published a new Urban Mobility Framework, which outlines its strategy to improve sustainable transport in the largest 424 European cities.

Initiatives

- The IEA/EU cooperative campaign Playing my part includes actions for individuals to reduce their energy consumption, such as turning down thermostats to 19C, working from home, reducing highway speed limits and using rail instead of air travel whenever possible.

- Schneider Electric seeks to incentivise consumer uptake of digital technologies that maximise energy efficiency, such as monitoring tools, sensors, controls and building management systems. Responding to RePowerEU, Schneider has proposed a 10-point action plan centred around digitalisation, electrification, decentralisation and optimisation.

- Energy Cities Saving Sprint, a shared initiative of the European Commission and the Covenant of Mayors in 2022, encourages cities to take measures that will immediately reduce their energy consumption.

- The Energy Efficient Mortgages (EEM) Initiative is a pan-European private bank financing mechanism that aims to stimulate and finance investment in energy efficient buildings and energy saving renovations.

3.
ACCELERATE
EMISSIONS
REMOVAL

REDUCING EMISSIONS IN ENERGY-INTENSIVE INDUSTRIES THROUGH PERMANENT EMISSIONS REMOVAL SOLUTIONS

- What coordination is needed at the local, regional and national levels to mobilise carbon removal solutions?

- How do we ensure that the development and deployment of emissions removal technologies prioritises safety and equity?

- How can we mitigate the ecological impacts of emission removals in Europe?

Current context

The Intergovernmental Panel on Climate Change (IPCC) calls carbon removals "unavoidable." In December 2021, the European Commission adopted a Communication on Sustainable Carbon Cycles, setting out how to increase removals of carbon from the atmosphere. Per the Communication, carbon removals are the third of three ways to balance the carbon cycle — the first two being carbon reliance reduction and recycling carbon from waste streams.

The Communication calls for "upscal[ing] carbon removal solutions that capture CO2 from the atmosphere and store it for the long term," while ensuring no negative impact on biodiversity or ecosystem deterioration in line with Do No Significant Harm principles. "The development and deployment at scale of carbon removal solutions," concludes the EC, "is indispensable to climate neutrality and requires significant targeted support in the next decade."

However, there has been criticism of the EU implementation of carbon removals. A September 2022 report by Ecological found that:

No EU Member State has a dedicated strategy for carbon dioxide removals (CDRs);

Member States do not address CDRs in a comprehensive and strategic manner and do not provide leadership to make CDRs the endgame of climate action (if emissions near zero); and

While Member States regulate many aspects of nature-based CDR options, they often only describe other CDR options (e.g., technological), if at all.

Policy Levers & Next Steps

By the end of 2022, the Commission will propose an EU regulatory framework for the certification of carbon removals. The framework will be based on robust and transparent carbon accounting rules and requirements to monitor and verify the authenticity and environmental integrity of carbon removals. Such rules will provide the necessary legal framework to scale up carbon farming and industrial solutions removing carbon from the atmosphere.

Initiatives

There are already examples of carbon removal technology in place. Last year in Iceland, a Swiss start-up called Climeworks AG opened the world's largest plant that sucks carbon dioxide directly from the air. Meanwhile, Norway will open its first full-scale carbon capture and storage project in 2024, as the first-ever, cross-border, open-source CO2 transport and storage infrastructure network, offering companies across Europe the opportunity to store their CO2 safely and permanently underground.

4.
INCENTIVISE
EMISSIONS
REDUCTION

IDENTIFYING THE RIGHT INCENTIVES, POLICIES AND CONSUMER BEHAVIOURS REQUIRED TO ADDRESS EFFICIENCY, EMISSIONS REDUCTIONS AND RENEWABLE TAKE-UP TARGETS

- What is most needed to drive emissions reductions in Europe?

- How can the EU develop better incentives towards a net-zero future?

- How can European politics be unlocked to deliver an ambitious Fit-for-55 package?

Current Context

According to the European Environment Agency, EU greenhouse gas emissions declined steadily from 2010-2014, rose slightly in the period 2015-2017 and dropped again in 2018. In 2019, emissions fell by nearly 4% compared to 2018, representing the sharpest drop since 2009.

There are several key factors contributing to this drop in emissions. Incentive mechanisms and low-carbon policies, such as emission trading schemes (ETSs), feed-in tariffs for renewable energy production, carbon taxation, renewable obligation and emission performance standards all play a role. Cap-and-trade ETSs are one of the most utilised policy instruments in controlling greenhouse gas emissions globally — but it may be at risk of being weakened by responses to Europe's energy crisis.

Policy Levers & Initiatives

EU Emissions Trading Scheme (EU ETS)
Launched in 2005, the EU ETS is the EU's key carbon pricing instrument and the world's earliest international emissions trading system. It currently operates in 27 EU Member States plus Iceland, Liechtenstein and Norway, and covers more than 10,000 installations in the power and manufacturing sectors and airline industry in the European Economic Area (EEA).

The EU ETS is a "cap and trade" system, which sets an annual limit on the total GHG emissions (cap) of covered entities. The cap is gradually reduced annually to achieve emissions reduction. Market players purchase or receive an initial amount of allowances. Deficit of allowances ensures that there is a market price for them (trade). This market-based approach ensures that emissions are cut in a cost-effective manner.

The 2022 REPowerEU plan risks weakening EU ETS. It includes a proposal to spend 10 billion euro on new LNG and fossil gas pipeline infrastructure to reduce EU dependency on Russian gas, plus an additional 2 billion euro for switching gas power plants to coal. Some of these investments would be funded from the sale of additional emissions allowances in the framework of the EU Emissions Trading Scheme, which would weaken the efficacy of the EU's major decarbonisation tool.

EU Renewable Energy Directive

The 2009 EU Renewable Energy Directive is also an example of a policy that has contributed to incentivising emissions reductions. The Directive has established rules to remove barriers, stimulate investment and drive cost reductions in renewable energy technologies.

Emission Performance Standards

Incentives for reducing emissions also extend to the automotive industry. The EU regulation on CO2 emission performance standards currently sets EU carbon dioxide (CO2) emission performance standards for new passenger cars and new light commercial vehicles (vans) registered in the EU. As part of Fit for 55, the European Commission is proposing to revise this regulation, setting more ambitious CO2 emission targets for new cars and vans from 2030 onwards. This is in line with the EU's more ambitious target of achieving net emission reductions of at least 55% by 2030, compared to 1990 levels.

Carbon Border Adjustment Mechanism (CBAM)

A part of the Fit for 55 legislative package, the Carbon Border Adjustment Mechanism (CBAM) is a carbon tax for imported commodities and electricity — one that aims to prevent carbon leakage and support the EU's increased ambition on climate mitigation, while ensuring WTO compatibility. If adopted, the CBAM system will work as follows: EU importers will buy carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced under the EU's carbon pricing rules. Conversely, once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in a third country, the corresponding cost can be fully deducted for the EU importer. The CBAM will help reduce the risk of carbon leakage by encouraging producers in non-EU countries to green their production processes.

Next Steps

In July 2021, the European Commission released proposed amendments to the EU ETS as part of Fit for 55 — policies designed to deliver a cumulative emissions reduction of at least 55% by 2030, compared to 1990 levels. The proposed directive highlights the EU ETS as "a core instrument to help the EU achieve the increased 2030 target and a successful and just transition towards the 2050 climate neutrality."

In a surprise vote in June 2022, members of the European Parliament rejected a set of proposals within the Fit for 55 climate package, including positions on mechanisms and policy incentives to reduce emissions. Therefore, the introduction of the Carbon Border Adjustment Mechanism (CBAM) is on hold for now, as is revision of the EU ETS. The European Parliament voted against the proposal to include other sectors of the economy, like buildings and shipping, and increase the scope of the scheme to a total of 61% of greenhouse emissions in the EU, from the current 43%. The climate package is now under renegotiation and due for another vote sometime in late 2022.

5.
PROVIDE
EQUITABLE &
AFFORDABLE
ACCESS

PROVIDING ENERGY, TO ALL,
AT REASONABLE COST

- How can we improve energy security and access?
- How can we centre justice and equity within the transformation of energy sourcing and infrastructure?
- What measures can ensure affordable energy for all?

Current Context

A transition to renewables and energy efficiency is urgently needed, not only to slash emissions that are rapidly warming our planet, but also to accelerate human progress and sustainable development. Energy access and affordability are key to human health, security, and opportunity, supporting vital services such as healthcare, education, and broadband and enabling employment. The link between energy, well-being, and livelihoods is therefore a reason to facilitate a rapid switch to renewable energy generation.

Cost is a real issue: energy is a trace input into the cost of every good and service. Over the course of 2022, energy prices in Europe (in addition to the overall cost of living) have risen dramatically, contributing to high inflation. This year alone has already seen a 2x increase in oil prices, 4x increase in coal prices and nearly 7x increase in European natural gas prices for the average consumer. These impacts impose a heavier burden on lower income consumers, who spend a higher proportion of their income on such essentials.

Oil and gas companies have benefited from windfall profits amid high demand and supply uncertainty; meanwhile, the average European faces enormous heating bills this winter. In most of Europe, where energy provision has been stable for decades, energy poverty is today a topic of widespread concern. In 2020, about 36 million Europeans were unable to afford proper heating, with knock-on effects for the economy, individual health and social well-being.

Numerous challenges exist in ensuring equal access to clean, renewable energy. These include price differences by fuel type and by country, clean energy affordability (in contrast to overall energy poverty), and cost and pace of clean energy infrastructure development. An accelerated transition will make energy more costly in the short run, risking additional pressure on those living on low incomes -- often women, children, and the disabled. Adaptation to a green economy therefore requires social protection, education, and new skills.

Policy Levers & Initiatives

- The Social Climate Fund, which requires EU states to prepare 'social climate plans' that address the challenges and negative effects of introducing a carbon price to transport/ buildings expected by vulnerable households, microenterprises, and transport users.

- Creation of energy communities that actively contribute to energy efficiency measures, such as local heating and cooling projects.

- National policies to shield consumers from rising energy prices.

6.
SECURE
A JUST
TRANSITION

SECURING A FAIR, JUST AND INCLUSIVE TRANSITION — FROM A FOSSIL FUEL ECONOMY TO A CLEAN ENERGY ECONOMY — FOR IMPACTED WORKERS AND COMMUNITIES

- How do we better measure the social impacts of the energy transition?
- What are the opportunities for empowering vulnerable groups in the energy transition?
- How can stakeholders collaborate in support of a just transition beyond Europe?

Current Context

Climate action is essential to maintain livelihoods, preserve fundamental rights and safeguard economies. Still, the shift towards an emissions-free economy is expected to disproportionately affect some people and communities more than others — both at the local and global level —and can even threaten fundamental human rights. The 2015 Paris Climate Agreement acknowledged "the imperatives of a just transition of the workforce and the creation of decent work and quality jobs." The International Labour Organisation's Guidelines for a Just Transition set out a vision of just transition that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.

People employed in sectors affected by the energy transition are most vulnerable, depending on the pace of change and the geographical concentration of workers. Some EU Member States and sectors will experience more significant job impacts. It is projected that 65,000 jobs will be lost in Europe's coal sector, for example, which is concentrated in central and easter Europe, particularly in Poland. Another example is the automotive industry, which plays a major role in the economies of Germany, France and Italy. The shift to battery electric vehicles will result in manufacturing job losses – up to half a million jobs may be lost in the automotive industry by 2030 – as the labour input required drops when compared to petrol (gasoline) and diesel vehicles. This major transformation of millions of jobs requires new competences, skills and forms of work organisation.

Certain vulnerable groups are likely to be affected more than others during the transition, including women; ethnic minorities such as Roma communities; and migrant and foreign-born workers employed in relatively low-paying jobs and polluting sectors. Older workers also represent a bigger share of the workforce in carbon-intensive sectors, such as mining, energy and transport. These groups may have limited capacity to retrain or upskill in the green economy.

However, the transition will create new, sometimes extraordinary opportunities and transform the European economy. Onshoring Europe's power supply will create good quality jobs in Europe. Agora Energiewende estimates that job losses in the gas industry will be outweighed by 418,000 new jobs created in solar and wind power generation. The transition will also come with increasing demand for skills in renewables and clean energy, energy and resource efficiency, digital competences, STEM knowledge to trigger innovation and breakthrough technology, greener construction methods, city planning and design, technical competences in adaptation, waste management, technology-first maintenance and repair roles to reduce resource demand and boost the circular economy, among others.

Policy Instruments & Levers

The European Commission's Just Transition Mechanism (JTM) was set up to leave no person and no region behind in the transition towards a climate-neutral economy. It includes the Just Transition Fund (JTF), which will invest €17.5 billion in the 2021-2027 period in the territories most affected by the transition to a climate-neutral economy.

The JTF Regulation (July 2021) sets out the rules for how the fund can be spent, and how much each member state will receive. The Just Transition Platform assists stakeholders in using the support provided by the JTM and actively promotes the exchange of best practices among all involved stakeholders.

EU Member States are already preparing their territorial just transition plans (TJTP), which must be approved by the European Commission before any funding can be disbursed for projects. Some TJTPs that were formally submitted have already been rejected, due to lack of clear timelines and detailed planning. Once a plan has been approved, the JTM provides access to three funding pillars: The Just Transition Fund; an InvestEU Scheme, which aims to incentivise private investment in transition regions; and a Public Sector Loan Facility.

Groups like the ETUC have criticised the EU's just transition framework for having insufficient policy tools to deal with the transition impacts on affected workers, regions, and vulnerable individuals. They propose legislation for meaningful workers' participation and citizens' involvement, and the expansion of the JTF to support workers in transition to new jobs with measures targeted to specific sectors. They also suggest that the public sector and businesses could cooperate to adapt training, reskilling, upskilling and other education programmes in flexible formats to the wider workforce.
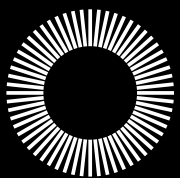
Initiatives & Next Steps, in Europe & Beyond

Just transition is a process that supports climate justice both within and between countries. Actions, such as the diversification of gas sources for Europe, or decisions to limit financing of fossil based energy projects, have an economic impact on developing countries and their ability to generate the income needed to fulfil social needs and create jobs. Developed, industrialised, and emission intensive countries must support developing economies to accelerate their energy transitions in a just manner to achieve shared global climate ambitions.

For instance, the EU and various European countries during COP26 announced their support for the South African Just Transition partnership. The Partnership (often referred to as the JET-P) aims to accelerate the decarbonisation of South Africa's economy, with a focus on the electricity system, to help it achieve the ambitious goals set out in its updated Nationally Determined Contribution emissions goals. Discussions are ongoing for similar partnerships in different parts of the world, though concerns remain— including related to ensuring that these plans facilitate equitable stakeholder participation. Such programs not only need to uphold the highest standards on human and labour rights, but also should not not exacerbate the debt crisis in developing countries.

Other European initiatives include those of the EIB, both its Climate Bank Roadmap and its efforts (together with other multilateral development banks) to develop just transition approaches both within and outside the European Union.

The EU external energy policy, adopted in May 2022, sets out to accelerate the global green and just energy transition. It focuses on ensuring sustainable, secure and affordable energy for the EU and the world – and on the importance of building long-lasting international partnerships and promoting the EU clean energy industries across the globe.