CLIMATE ACTION PATHWAY

ENERGY

Action Table

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Global Climate Action
United Nations Climate Change

Marrakech Partnership

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Impact 1

ENERGY TRANSITION ACHIEVED

MITIGATION

NEXUS

Policies (national, subnational and local)

By 2020

- Long-term energy plans are in place, compatible with the 1.5°C pathway including clear targets for power, transport, and heat/cooling.
- Clear and ambitious energy efficiency and renewable energy policies are adopted and aligned with targets at national, state/regional, and local levels.
- An enabling environment has been created, together with performance standards and financing/investment strategies.
- Local government energy planners have been empowered to increase deployment of decentralized energy solutions.

By 2030

- SDG7 on energy has been achieved with universal access to affordable, reliable, sustainable and modern energy by significantly increasing the deployment of renewable energy and doubling the share of efficiency.
- Energy transition pathways and policies are in place, including socio-economic and environmental elements to ensure a just transition.
- Comprehensive policy design – including policies that secure resilient and climate-proof systems, that encourage awareness building and promotional material design, are in place to tap the full potential of energy savings, in line with 1.5°C plans.

By 2050

- Energy systems are decarbonized and resilient.
- Universal access to sustainable energy is maintained and continuously improved for social and economic development.

	▪ Participatory processes and regular reviews has helped ensure public buy-in. ▪ The private sector and others are collaborating around 1.5C implementation strategies. ▪ Energy deficiency and renewables are a central part of Nationally Determined Contributions (NDCs) and national policy. ▪ The cost of efficiency is reflected in planning processes. ▪ Enabling frameworks are in place for the development and deployment of on grid and decentralized energy solutions, including mini-grid and off-grid, helping to accelerate the pace of electrification, particularly for underserved areas. ▪ Governments have established enabling frameworks to facilitate access to renewable electricity markets as well as direct investment in renewable energy by corporate customers. ▪ Governments have facilitated the development of infrastructure for efficient and renewables-based energy end-use, most immediately for transport. ▪ Preparations for a digitalized and integrated grid, including regulations on data and cybersecurity, are underway.	▪ Integrated energy planning (using grid, mini-grid, and off-grid technologies and taking into account of energy-water-land-use nexus) are fully utilized to ensure universal energy access. ▪ Infrastructure and clean power is in place to support electric mobility. ▪ Enabling policies are stimulating a circular economy and maximizing opportunities for more efficient use of energy and other resources.	
Finance and Investment	▪ Annual investments in low-carbon energy technologies and energy efficiency have been upscaled by roughly a factor of 6. ▪ Energy-efficiency finance is four times the level of 2018. ▪ Investors, international financial institutions, philanthropists and impact investors are committing technical assistance and finance to urgently scale-up	▪ Energy-related investments are on track to fulfill the goal of achieving an additional annual average of USD 830 billion for the period 2016 to 2050. ▪ Pipeline of bankable projects exists for investment at scale.	▪ Cumulative USD 18.6 trillion has been shifted from fossil fuels to low-carbon technologies. ▪ USD 110 trillion has been invested in energy efficiency, renewable energy, and related infrastructure since 2018.

	funding for energy access in line with the USD $51 billion required on an annual basis to achieve Sustainable Development Goal (SDG) 7. ▪ The lending decisions of national governments are taking into consideration the land-water-energy nexus thereby promoting a holistic approach to NDC implementation. ▪ Corporate demand for, and long-term commitment to purchasing renewable electricity is reducing risks for developers. ▪ Fiscal reforms, including of government budgets, are enabling decarbonization of the energy system.		
Technology and Innovation	▪ Governments are providing enabling frameworks for investment in innovation and a range of R&D solutions. ▪ National governments, utilities, and distributors are accelerating innovative solutions in renewable energy system operation and flexibility options. ▪ Private sector innovation and investment is being increased in a range of Research and Development (R&D) solutions, business models and system solutions for renewable energy technology and digitalization. ▪ Economic incentives for the RTD, production and use of low-carbon fuels have been introduced. ▪ New utility business models are serving as demand aggregators for the corporate sourcing of renewables for small and medium-sized enterprises. ▪ Project life-cycles are being included in analyses of technologies.	▪ Innovation in energy-intensive processing industries for 1.5ºC-compatible trajectories are being stimulated, including maximum electrification, shifts to other low-emission energy carriers such as hydrogen or biomass, integration of carbon capture and storage and innovations for carbon capture and utilization.	▪ Innovation for efficient and resilient energy systems is continuing.

Business and Services	▪ Partnerships with lighting, telecom and big data solutions providers are demonstrating benefits and best practices. ▪ Corporations are adopting efficiency strategies and ambitious renewable energy targets. ▪ Corporations are sharing best practice experiences on the procurement of energy from renewable sources and the improvement of energy productivity. Circular use of material and infrastructure is mainstreamed in business strategies.	▪ Efficient solutions have dramatically reduced energy intensity in hard-to-abate sectors ▪ Targets for the share of renewable energy in buildings by 2030 have been met, thanks to the significant contribution by the private sector. ▪ Combined investments in charging infrastructure and the electrification of railways reach around USD 298 billion yearly ▪ Cumulative investments in renewable heating, fuels and direct uses have nearly tripled to USD 73 billion compared to 2018.	▪ The electricity share of energy demand in buildings has reached between 55 and 75 per cent in 2050.
Civil Society	▪ Civil society at all levels is being supported in its advocacy efforts and raising public awareness of renewable energy deployment and benefits. ▪ Civil society and citizens are supported and encouraged to participate in the energy transition, including by developing community energy systems, becoming prosumers, transitioning to renewable electricity, using renewable energy powered vehicles and purchasing energy efficient appliances. ▪ implementation of action at the local level is effective, efficient and well-integrated. I ▪ Misconceptions around renewables and other clean energy technologies, particularly in terms of their costs and reliability, have been laid to rest. ▪ Consumer groups and civil society are working with communities to promote behavioral change around energy consumption and efficient energy use.	▪ Ensure civil society effectively influences policy making and action, including at the local level.	▪ Civil society actively contributes to the shaping of energy policies and strategies.

EXISTING INITIATIVES

RE100	An initiative bringing together the world's most influential companies, committed to 100% renewable power. This initiative is led by The Climate Group in partnership with CDP
EP100	A voluntary initiative where corporations pledge to double their energy productivity within 25 years of a chosen baseline. This initiative is led by the Climate Group in partnership with the Alliance to Save Energy
Climate Investment Platform	An inclusive partnership welcoming all stakeholders from governments and international organizations to the private sector to scale-up climate action and translate ambitious national climate targets into concrete
Three Percent Club	A collaboration of governments and supporting organizations that commit to working together to put the world on a path to *three percent annual efficiency improvement*.
Cool Coalition	A unified front that links action across the Kigali Amendment, Paris Agreement and Sustainable Development Goals. It will inspire ambition, identify solutions and mobilize action to accelerate progress toward clean and efficient cooling.
SIDS Lighthouses Initiative	A framework for action to support small island developing states (SIDS) in the transformation from a predominantly fossil-based to a renewables-based and resilient energy system.
SEforALL	A not-for-profit charity running the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.
REN21	A global platform that empowers leaders to broker partnerships and unlock finance to achieve universal access to sustainable energy.
LDC Sustainable Energy Access Coalition	The Coalition aims to benefit rural, remote and vulnerable areas in developing countries, with special emphasis on LDCs that would have high impact on universal energy access. Main partners include Ethiopia and Morocco/MASEN, while knowledge partners are IRENA, GGGI.

FURTHER REFERENCES

IPCC Special Report: Global Warming of 1.5 °C	Transforming the Energy System – and Holding the Line on Rising Global Temperatures
Renewables 2019 Global Status Report	World Energy Outlook 2019
Global Energy Transformation: A Roadmap to 2050 (2019 edition)	

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Impact 2

ADAPTION ACTION FULLY INTEGRATED INTO THE ENERGY SECTOR

ADAPTATION

NEXUS

Policies (national, subnational and local)

By 2020

- Institutional capacity-building is helping officials to identify and manage climate risks.
- Governments and stakeholders have identified opportunities for improved integration, interconnectivity and efficiency of systems.
- Establish regulatory framework for public entities to access private data
- Demonstrate the business case for investing in decarbonisation measures
- Include logistics companies in the policy discussion on decarbonising freight transport through the improvement of operational performance, which will also reduce cost

By 2030

- Infrastructure has been re-designed to create flexibility for integration of high-share renewable technologies to increase system resilience.
- Underserved populations have access to sustainable and resilient energy systems.
- Renewable energy solutions contribute to adaptation strategies for other sectors, such as water and land-use.

By 2050

- Climate risks have been reduced through integrated planning (e.g., energy-water-land-use nexus).

Finance and Investment	▪ Institutional capacity is being developed to identify and manage climate risks. ▪ Flexibility in new infrastructure design is becoming the norm; ▪ Finance institutions and banks have agreed to disclose investment in renewables and energy efficiency projects.	▪ Climate-resilient refurbishment, retrofitting and renewal programmes of the building stock, in many cases using nature-based solutions are in place. ▪ Business case and investment financing criteria are being used to facilitate the delivery of climate-resilient infrastructure.	▪ There is continued investment in climate-safe energy systems.
Technology and Innovation	▪ There is a fluid process of information exchange and the sharing of evolving good practice and feedback through industry guidelines and standards. ▪ Modelling and information management systems are being developed by (neutral) international organizations.	▪ Real-time hydro-meteorological monitoring and early warning systems have been put in place. ▪ New design standards, planning processes and evaluation techniques have been developed to accommodate climate change-related risks. ▪ Climate-resilient refurbishment of building stock with clear financing mechanisms have been developed. ▪ Innovative solutions to managing a low-carbon energy systems under conditions of resource scarcity (i.e. limitations on water, material and land use) have been found.	▪ Energy installations are decentralized and resilient to ever-increasing climate impacts.
Business and Services	▪ Institutional capacity is in place to manage climate risks to existing assets and operations. ▪ Asset conditions are being monitored and maintenance activities are prioritized to maximize adaptive capacity. ▪ Stakeholder engagement has led to the identification of improved integration, interconnectivity and efficiency opportunities.	▪ Real-time monitoring and early warning system are helping citizens prepare in the face of a range of climate impacts; contingency plans are available to the public. ▪ Programmes for climate-resilient refurbishment, retrofitting or renewal of building stock, using nature-based solutions where relevant, are in place.	
Civil Society	▪ The public is familiar with disaster mitigation and recovery and other contingency plans.	▪ The public continues to be made fully aware of with disaster recovery and other contingency plans.	▪ Disaster recovery and other contingency plans are minimizing hardships from climate impacts.

- The public is engaged in decisions concerning resilient energy infrastructure
- No-regret/ win-win opportunities have been identified and acted upon.

EXISTING INITIATIVES

Accelerating Sustainable Energy in SIDS	A transformative package aimed at accelerating Sustainable Energy in SIDS to achieve enhanced and ambitious energy transition targets by 2030.
LDC Sustainable Energy Access Coalition	The Coalition aims to benefit rural, remote and vulnerable areas in developing countries, with special emphasis on LDCs that would have high impact on universal energy access. Main partners include Ethiopia and Morocco/MASEN, while knowledge partners are IRENA, GGGI.
Energy Storage Initiative	This initiative was launched to increase investment in battery storage to achieve approximately 17.5 GWh of battery storage by 2025, thereby catalyzing a market of 200-400 GWh in developing countries and accelerating cost reduction potentially by 5-7 years.
Three Percent Club for Energy Efficiency	Countries forming the 3% club assert their commitment to the importance of energy efficiency through domestic policies and NDCs.

FURTHER REFERENCES

IPCC Special Report: Global Warming of 1.5 °C