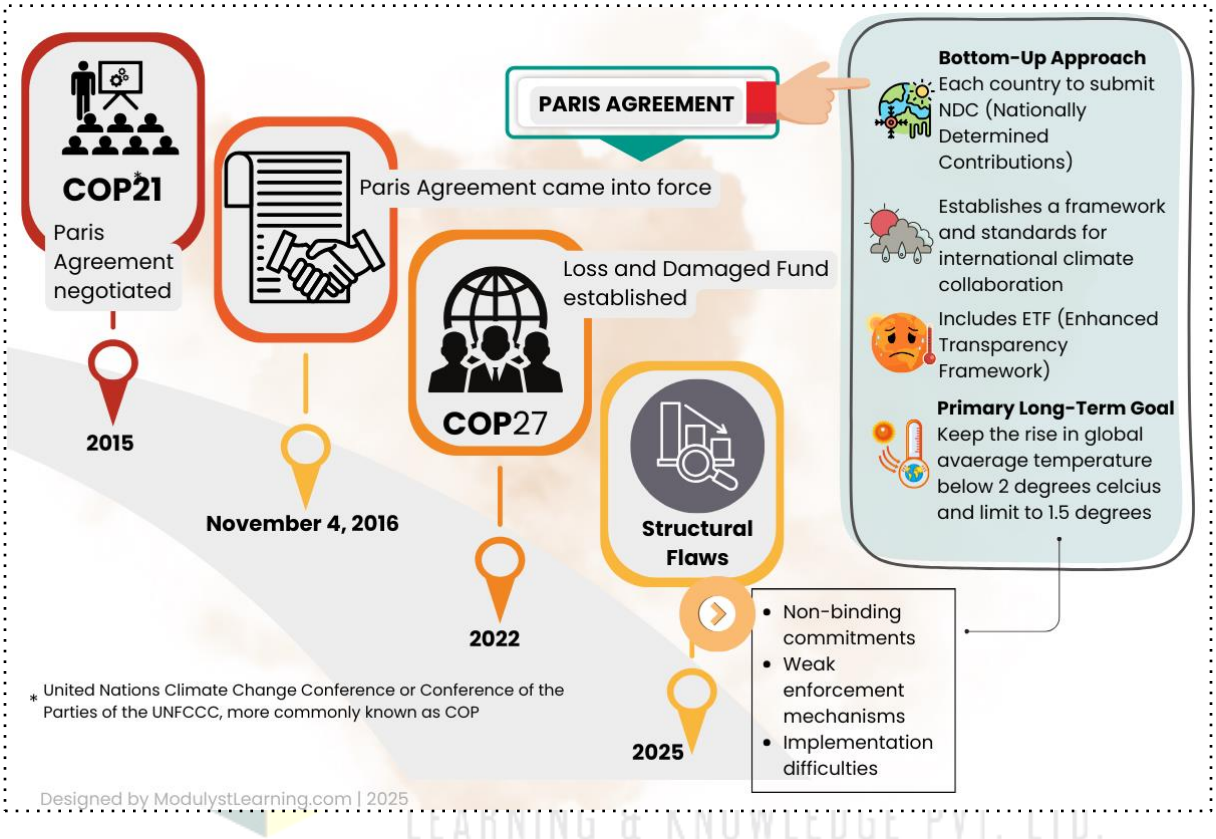
10 YEARS OF THE PARIS CLIMATE AGREEMENT

Successes, Failures, and Ongoing Challenges



1. The Paris Agreement was negotiated during COP21 in 2015 and came into force on November 4, 2016, after exceeding the threshold of ratification by over 55% of global greenhouse gas emissions. Its main long–term goal is to keep the rise in global average temperature well below 2 degrees Celsius above pre-industrial levels, with efforts to limit it to 1.5 degrees. The agreement employs a "bottom-up" approach, requiring each country to submit its own Nationally Determined Contributions (NDCs)—which include emissions reductions, adaptation, and climate commitments—every five years, to increase ambition through a "ratchet mechanism." It also includes an Enhanced Transparency Framework (ETF), which establishes standards for countries to report their emissions, climate actions, and the financial or technological support they provide or receive.

   The Paris Agreement establishes a framework and standards for international climate collaboration. Still, it primarily depends on voluntary commitments,

national targets, peer influence, and financial or institutional support rather than strict enforcement mechanisms.

2. Successes and Positive Impacts (Over the past decade) –

- Despite its design constraints, the Paris Agreement has attained several significant milestones, both tangible and symbolic or structural.

- The universality and legitimacy of the global climate regime –

- Almost all countries across the globe have committed to the Paris Agreement. This extensive involvement represents a diplomatic and normative success, as it gained broad backing from developed, developing, and least-developed nations.

- The Agreement now serves as the central framework for global climate governance, with almost all national climate policies, international negotiations, and climate finance discussions referencing or aligning themselves with the "Paris regime".

- It partly tackled the fragmentation of climate actions by establishing a shared platform—such as COPs, stocktaking, and transparency mechanisms—where countries can compare, critique, coordinate, and strengthen their ambitions, rather than depending only on individual bilateral or regional agreements.

3. Many countries have shaped their national policies, governance structures, and climate institutions by updating domestic policies, legislation, and regulatory frameworks to meet their NDCs or more ambitious climate goals. For example, some regions have accelerated renewable energy deployment, established energy efficiency standards, implemented carbon pricing or emissions trading schemes, and provided subsidies for renewables. Additionally, the agreement has encouraged governments to integrate climate considerations into planning, budgeting, and development processes, rather than treating climate as a separate issue. Subnational and nonstate actors—such as cities, states, and the private sector—have been mobilized: many companies, investors, and cities have committed to net-zero or low-carbon pathways, often driven by peer influence or alignment with national objectives. The coherence of reporting and transparency standards, through the ETF, helps enhance accountability and comparability over time. Countries now follow more consistent reporting standards, with increased peer review and oversight.

4. Some impacts on mitigation and emissions pathways, though modest –

- Based on various analyses and climate models, the Paris Agreement and its pledged policies have contributed to reducing the "worst-case warming trajectory." Without the Paris process, global warming could be higher. For instance, reports indicate that the Agreement has helped lower projected warming from 4 degrees Celsius to approximately 2.6 degrees Celsius under current commitments. Few countries have made significant progress in emissions reductions or in adopting renewable energy that can be directly linked to policies driven by Paris or pressure from the agreement. In middle-income countries, which are major emitters, evidence shows limited decoupling of emissions growth from economic growth, though results are mixed. The Paris process has also sent political signals through updated NDCs, with some countries increasing their commitments over successive cycles.

5. Progress on adaptation, loss and damage, finance and global stability –

- The topic of loss and damage—covering compensation or support for climate-related harms beyond adaptation—has become much more prominent due to the Paris regime. At COP27 (2022), establishing a Loss and Damage Fund was recognized as a significant milestone.

- Over the past decade, climate finance flows have increased but still fall short of needed levels. Certain developing countries have obtained funding for adaptation projects, renewable energy, and resilience initiatives.

- Paris has spurred technology transfer and capacity-building initiatives, enabling some developing countries to access low-carbon technologies, training, and institutional support.

- Increased global awareness, domestic political engagement, and civil society have legitimized the legitimacy and periodic cycles of the Paris Agreement, which have partly driven mobilization on climate issues.

6. Enhanced Scrutiny, transparency, and norm–building –

- The Transparency Framework has helped reduce 'dark spaces" in climate reporting, resulting in countries facing more rigorous reporting standards and peer reviews.

- The global stocktake in 2023 confirmed that current efforts are insufficient and emphasized the need to increase ambition.

- The Paris Agreement also supports climate litigation, with some courts referencing states' climate commitments under the framework as legal or moral foundations for accountability.

In summary, the Paris Agreement has notably influenced the framework of global climate governance by guiding national policies, promoting transparency, and affecting international trends—although it has not (yet) entirely prevented dangerous warming.

7. Failures, gaps, and limitations (what has gone wrong/ underwhelmed)

Despite the successes mentioned earlier, after a decade, significant failures, structural limitations, and unmet expectations became clear. Below is a breakdown of the main shortcomings –

- Emissions continue to increase, and climate goals remain unmet.

- A major criticism is that worldwide greenhouse gas emissions continue to increase instead of decreasing steadily. The levels of CO_2 and methane in the atmosphere are still rising.
- This suggests that remaining below a 1.5-degree Celsius increase in global temperature is unlikely, as numerous analyses show that such limits are now highly improbable or nearly impossible to reach.
- Some estimates indicate that the existing NDCs project a global temperature increase of roughly 2.5 to 3 degrees Celsius or more by 2100, with earlier forecasts suggesting rises of up to about 2.7 degrees Celsius.
- Recent empirical studies in middle-income countries indicate that the Paris Agreement has not significantly changed emissions trajectories, as economic and population factors continue to be the main influences.
- A significant 'emission gap' exists between the commitments made through NDCs and the reductions needed to meet temperature targets. Most evaluations estimate this gap at around 20 to 25 Gt CO2e or higher.
- Design weaknesses include non-binding pledges, insufficient enforcement, and vague obligations -
- NDCs are not legally enforceable under international law. While parties must "submit" them, there are no penalties if these commitments are not met.

- The Agreement lacks robust enforcement or compliance mechanisms, primarily relying on naming and shaming, peer pressure, and reputational risk.

- Since each country sets its own metrics and baseline years, cross-country comparison becomes difficult, leading to standardization issues. This lack of uniformity reduces transparency and makes benchmarking performance more challenging.

- The Paris regime's design lacks the strong framework necessary for reciprocity, binding conditions, or credible sanctions, which many theorists view as crucial for effective collective action. For instance, Carl Rasmussen (Cambridge) points out that the agreement does not include binding commitments, enforceable sanctions, or reciprocity.

8. Insufficient ambition and slow ratcheting up –

- While the Paris Agreement encourages countries to enhance their NDCs progressively, in practice, many nations have only modestly increased their ambitions, particularly in the initial cycles. Some countries have even reduced their targets in specific sectors.

- Ambition gaps continue to be significant, with many NDCs still well below the targets needed for 1.5°C compatibility.

- Some countries have postponed submitting new NDCs or updating policies due to domestic issues, such as economic and political challenges, which hamper their progress.

- Sometimes, long-term strategies (for 2050 or later) are poorly aligned with short- to mid-term policies (by 2030). The connection between ambitions and immediate actions is weak.

9. Finance, Support, and Equity Shortfalls –

- The Paris Agreement's pledge for developed countries to allocate USD 100 billion each year for climate finance by 2020—encompassing mitigation and adaptation—has largely not met expectations, faced criticism, and was extended. Many believe that actual funding is insufficient or not reliably provided.

- Even when financial resources are available, funding for adaptation lags behind mitigation efforts. Vulnerable countries often struggle to secure the necessary funds for effective adaptation.

- A substantial shortfall exists in adaptation finance. UNEP estimates that developing countries need hundreds of billions of USD annually for adaptation, far exceeding current funding levels.

- In many developing countries, capacity, institutional, and technological limitations impede their ability to absorb and utilize climate funds efficiently.

- The issue of loss and damage continues to be a contentious topic. Although an agreement on establishing a fund has been reached, uncertainties remain regarding its size, funding sources, and the reliability of fund distribution. As a result, many vulnerable nations remain insufficiently supported.

- Equity and differentiation continue to cause ongoing disagreements: debates about the extent of historic responsibility and capacity in obligations, how to distribute burdens equitably, and how to reasonably support developing countries.

10. Implementation gaps, institutional, technical, and political constraints -

- Several countries find it challenging to translate their NDCs into specific policies, regulatory reforms, and investments, especially in sectors like heavy industry, transport, agriculture, and land use.

- Inter-ministerial coordination is often inadequate, with climate issues staying separate from development, energy, industrial, fiscal, and infrastructural planning in various states.

- In some countries, domestic political resistance, vested fossil fuel interests, social acceptability issues, and short-term economic priorities obstruct the transition to cleaner energy.

- The deployment of low-carbon technologies, including grid integration, energy storage, transmission, and supply chains, has advanced more slowly in certain

regions than anticipated, mainly due to capital constraints, technical issues, and regulatory hurdles.

- Challenges in monitoring, reporting, and verification (MRV) still exist. Some data are incomplete, delayed, inconsistent, or lack robustness. However, the accuracy of emissions inventories is steadily improving, particularly in developing countries.

- Private sector action and investment have not always matched the required scale or speed. Corporate pledges often lack credible pathways or immediate implementation plans.

- Many developing countries face institutional capacity constraints, including a shortage of trained staff, weak institutional systems, inadequate regulatory frameworks, and poor coordination mechanisms, all of which hinder their ability to manage climate policies effectively.

11. External and emergent challenges (geopolitics, energy crises, inequality) –

- Geopolitical events like wars, energy security issues, supply chain problems, inflation, and increasing capital costs sometimes divert attention or resources from climate goals.

- Periodic energy crises, such as gas shortages and price spikes, often lead governments to prefer fossil fallback options for security reasons.

- In many countries, pressures from inequalities, development priorities, poverty reduction, and economic growth demands lead to the deprioritization or slowing down of climate action.

- Fossil fuel interests, subsidies, and infrastructure path dependencies—like coal plants, pipelines, and dams—cause inertia and lock-in effects.
- The cumulative emissions that are already "locked in" or committed by current infrastructure make achieving the 1.5°C target nearly impossible without swift and extensive changes, as these lock-ins are difficult to reverse.

- Climate feedbacks, tipping points, and non-linear effects such as permafrost release, methane feedbacks, and ice melt present risks that surpass the

assumptions of earlier climate models. This highlights the urgent need for action and the narrow window for effective mitigation.

- The carbon budget for 1.5 degrees is quickly running out, with some research suggesting only a few years of global emissions remain before an "overshoot" occurs.

12. Significant challenges going forward (what will determine success in the next decade) –

Looking ahead, the next 5–10 years are critical. Achieving the Paris goals—or at least minimizing overshoot—will rely on addressing the main challenges effectively. Below are the essential needs, obstacles, and possible strategies.

- Closing the ambition gap and acceleration mitigation –

- Countries need to adopt more ambitious NDCs, especially for 2030, to steer the world toward a better path. The existing "business-as-usual plus Paris" scenario remains inadequate.

- These ambitious targets need to be supported by credible short-term policies and clear 'implementation pathways'—meaning turning intentions into laws, regulations, budgets, incentives, and sectoral decarbonization efforts.

- A sharper focus is needed on hard-to-abate sectors such as heavy industry (steel, cement, chemicals), aviation, shipping, agriculture, land use change, and waste.

- The deployment of clean energy sources like solar, wind, storage, grid infrastructure, and hydrogen needs to be significantly increased, with a focus on supply chains, resource constraints, materials, and scaling challenges.

- Policies including carbon pricing, emissions trading, fossil fuel phase-out plans, subsidy reforms, just transition mechanisms, and regulatory standards need to be reinforced.

- Innovation, R&D, and demonstration projects in emerging technologies such as carbon capture and storage, harmful emissions, and advanced materials must be accelerated, with deployment made commercially viable.

- Strengthening governance, compliance, and international cooperation –

- Reform or enhance Paris architecture by integrating more conditional, reciprocal, accountable, and enforcement mechanisms to reduce free-riding. Some recommendations propose "mutually conditional binding commitments" or mechanisms triggered by specific conditions.
- Enhance the comparability and standardization of NDCs, reporting formats, baseline methodologies, and metrics to reduce loopholes and inconsistencies.
- Enhance the global stocktake process to ensure it results in more ambitious NDCs and encourages countries to respond credibly, fostering more effective feedback cycles.
- Leverage coalitions of willing nations—small, ambitious groups can serve as examples, set standards, or form alliances (such as in renewable trade, green technology, and sectoral decarbonization) to motivate others to imitate.
- Improve international financial coordination, climate diplomacy, and backing from multilateral organizations like climate banks and development banks to better channel funds to vulnerable areas.

- Scaling climate finance, adaptation, and equity –

- Substantially increase climate finance flows—both public and private—to address mitigation, adaptation, and loss and damage. This may require innovative financing mechanisms such as green bonds, carbon markets, debt-for-climate swaps, and global levies.
- Guarantee the predictability, accessibility, and reliability of climate funding, especially for developing and least developed nations.
- Increase funding for adaptation, resilience, and disaster risk management, particularly in vulnerable countries. Bridging the adaptation finance gap is crucial.
- Implement the loss and damage fund with appropriate scale, equitable distribution, prompt disbursement, and sufficient capacity to address ongoing climate harms.
- Strengthen the integration of equity, fairness, historical responsibility, and differentiated capacity principles to prevent overburdening countries and to preserve trust in the system.

- It promotes capacity building, institutional enhancement, policy development, and technology transfer in countries of the Global South, helping them implement climate strategies effectively.

- Overcoming challenges such as implementation inertia, structural barriers, and political economy limitations –

- Break the dependency on fossil fuels by retiring coal plants, limiting new fossil fuel investments, redirecting subsidies, and discouraging infrastructure projects that hinder net-zero objectives.
- Address political resistance by involving stakeholders, establishing justice and fair transition frameworks, offering social support to displaced workers, and creating policies that lower the social costs of transition.
- Build robust institutional capacity in sectors such as energy, transport, industry, and agriculture, along with effective regulatory design and governance across ministries.
- Upgrade monitoring, data systems, emissions inventories, modeling, and decision support systems to provide policymakers with reliable data.
- Encouraging public-private collaborations and attracting private sector investment in climate initiatives, while aligning financial market standards like risk assessment and disclosures to meet climate goals.
- Promoting behavior change, raising public awareness, encouraging sustainable consumption, supporting the circular economy, conservation, efficiency, and demand-side measures.

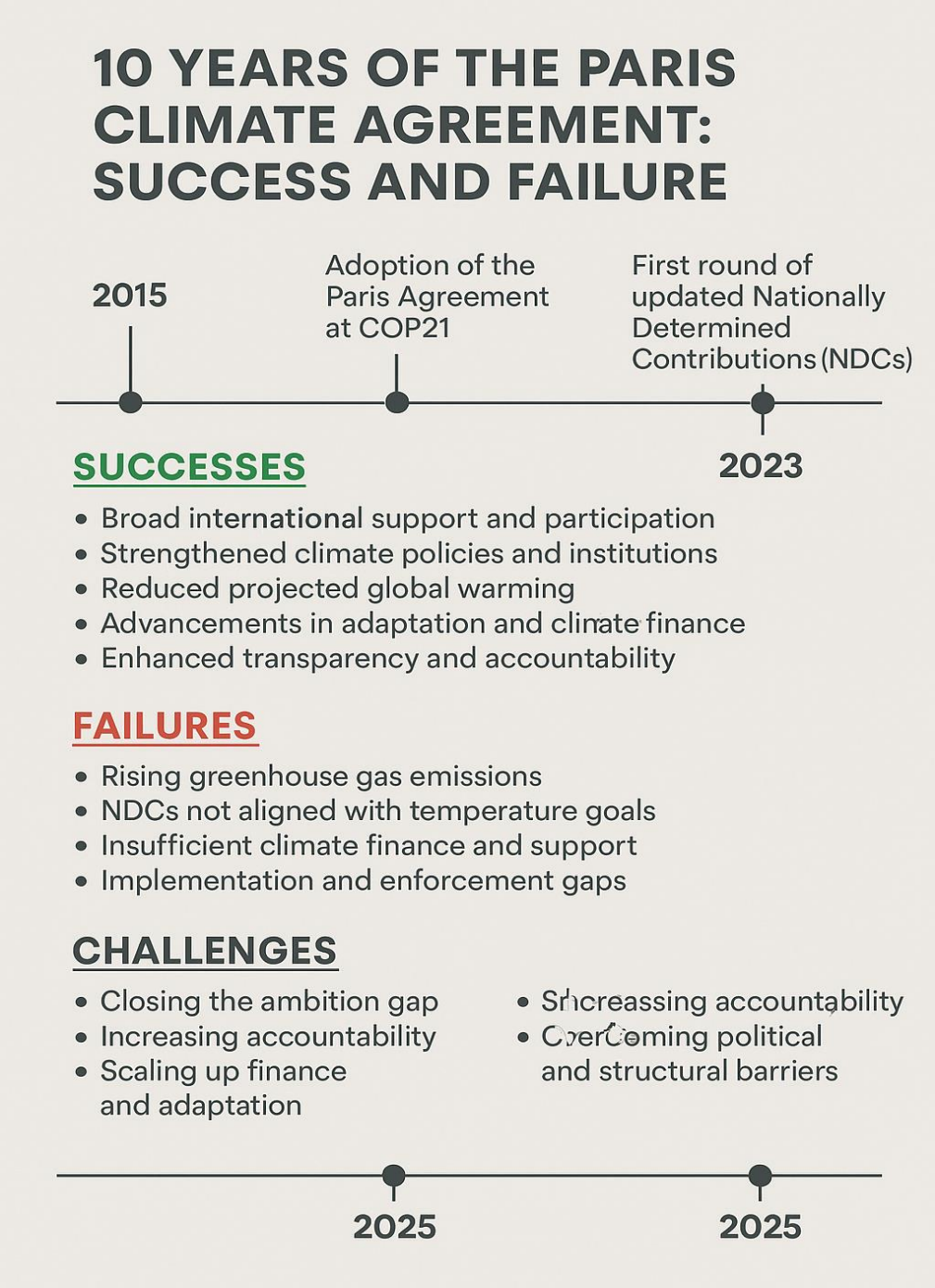
- Managing risks, uncertainties, and overshoot –

- Be prepared for overshoot scenarios by incorporating adaptation, resilience, harmful emissions, carbon dioxide removal (CDR) strategies, and feasible "emergency measures" if temperature thresholds are exceeded.
- Monitoring climate feedbacks and tipping points (such as permafrost thaw, ice sheet loss, and methane release), while maintaining flexible policies to adapt to new scientific discoveries.
- Enhance early warning systems, disaster response, ecosystem protection, biodiversity conservation, and climate resilience to better withstand adverse climate effects better.

13. Conclusion –

- The Paris Agreement marked a significant milestone in international climate policy by establishing a norms-based framework, enhancing legitimacy, and providing standard guidelines. It encouraged countries to develop climate plans and to pursue incremental mitigation efforts. However, its structural flaws—such as non-binding commitments, weak enforcement mechanisms, and implementation difficulties—restrict its ability to deliver rapid, substantial, and widespread emissions reductions. Currently, global trends indicate that staying below 1.5°C is unlikely, and even 2°C may be out of reach. Vulnerable nations continue to lack sufficient support, and gaps in financing and equity persist. The upcoming decade is critical; without urgent action and adjustments, achieving the Paris goals may become permanently unattainable.

Paris was essential but not enough on its own. It offered the basic framework; however, completing the structure depends on follow-through, political will, innovation, cooperation, and continuous effort.



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