

Report

Deep Decarbonization Latin America Project - Argentina -

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Inputs to negotiations and new or revised commitments under UNFCCC

Report Activity I-AR.4

LTS Inputs

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I. Introduction

The overall objective of this report is to present, in a systematic manner, the first part of a structured collection of insights regarding mitigation options in Argentina and its relations to investment opportunities, as well as a reference to issues associated with barriers to investments in order to inform the LTS development process with the purpose of aiding to advance the country's societal and economic sustainable development planning in line with the Paris Agreement and national priorities.

The intended purpose of this activity is to provide inputs to government decision-makers for the development of Argentina's low-carbon Long-term Development Strategy (LTS), the elaboration of next NDCs and, complementarily, to contribute to strengthen the range of elements necessary for the refinement of a deep decarbonization pathways strategy. This is to be done by examining the long-term coherence of actions proposed and those implemented under the different processes underway, that are being developed with that aim.

The inputs employed were collated both at the different multi-stakeholder and bilateral dialogue first round of sessions -held in the initial stage of the implementation of the IKI regional project- and, additionally, in particular at this stage, through in-depth sectoral analysis developed when undertaking other activities performed according to the project workplan related to identifying barriers to NDC implementation and reviewing in detail the wide spectrum of mitigation actions examined.

Moreover, the insights distilled through the analysis underway should provide support for the elaboration of the mitigation components of successive revisions of the National Plan for Climate Change Adaptation and Mitigation¹, the LTS itself and subsequent NDCs, as mentioned, by supplying evidentiary basis of the overall feasibility (environmental, social, economic and financial, as well as political) of those actions and the plausibility of intended decarbonization pathways to ratchet up stringency in line with the Paris Agreement goals, with national sustainable development strategies, with net zero carbon mid-century goals and with the main core principles that define the limits for long-term action and organize the sequence of decisions being adopted.

It is worth noting that, given the planning sequence adopted originally by the Argentinian government early in 2020, related to the dates of submission of the LTS and the second NDC, we will be presenting these outputs in three tranches, the first one through this report -that

¹ See: <https://www.boletinoficial.gob.ar/detalleAviso/primera/222018/20191127>

was concluded at the end of the fourth quarter 2020-, the second one by the third quarter of 2021, and the third one at the end of the first quarter of 2022.

The initial results delivered in this first report will then be improved through the inclusion of additional information and knowledge gathered during the subsequent implementation of the project and then further enriched as part of the completion of the final outcome of this particular activity, to be submitted later on in 2022.

This document is organized as follows: after briefly describing the regional Project and its objectives, along with the elements pertaining to the current activity, which is precisely the subject of this report, we examine the unique conditions for strategic climate planning in Argentina, providing a third-party view context for the elaboration of the LTS, and finally we specify the strategic key findings resulting from the work that has been done so far.

1. The Project

The project aims to assist in contributing to creating enabling conditions to make finance flows consistent with needs related to low-carbon and resilient development pathways to be adopted by the three Latin American target countries: Argentina, Brazil and Peru.

More specifically, in Argentina the major objectives of the regional project are interpreted at the national level as being the following:

1. Identify enabling conditions to make feasible the decarbonisation of the country's economy and strengthening resilience. To that end it is convenient to improve and broaden access to international climate finance, as well as enhancing the conditions to achieve and expanded flow of private resources to contribute to fund long-term climate action, in order to complement what might be relatively sparse resources from the public sector, in a context defined, initially, by the need to finance highly finance intensive recovery plans.
2. Provide robust information on the nature and extent of the challenge posed by climate change to create awareness and demonstrate that climate action should be a key element in enabling short-term economic recovery, while avoiding bad long-term investments and strengthening sustainable development.
3. Contribute to providing elements to enhance and strengthen the existing climate governance, policy and regulatory framework, pillars of a well-conceived, effective and fair long-term, sustainable climate action.

4. Identification of new and innovative financial instruments, at the economy-wide level and that are appropriate at the sectoral level, including those capable of assisting in modifying favourably the risk-return profile of investments.
5. Identify strategic investment opportunities in the selected sectors, that may still be under enduring major budgetary and financial constraints.
6. The overall aim is to avoid potential carbon lock-in and strengthen mitigation actions, while increasing the efficiency of investment decisions.
7. Consolidate a green and sustainable investment portfolio in a prioritized sector, while also assisting to explore and propose demand side policy approaches to reduce GHG emissions with a relative low investment intensity.
8. Showcase that a green recovery is feasible, attractive from an investor's perspective, and adding to sustainable development patterns and trends.

2. Objectives of this activity

This report examines the long-term coherence of actions proposed under the different transitional processes and aim to verify intertemporal consistency in relation with the global goals of the Paris Agreement and the Sustainable Development Goals (SDGs).

To that end, research and analysis were conducted to integrate and define some of the main conclusions of other previous project activities that were underway².

Based on the results of those activities, complemented with information and feedback gathered at the different multi-stakeholder dialogue sessions held -regarding amendment policy and regulatory reform proposals, instrumental exploration, and the scrutiny of investment opportunities-, we are able to provide inputs to decision-makers for the elaboration of the LTS, the preparation of the next generation of Nationally Determined Contributions (NDC) and to assimilate further the deep decarbonization pathways strategies previously elaborated in Argentina

Even if the outcomes of the activity of which this report provides a synthetic account, should be made available during the implementation of this regional project, some of the efforts made in their elucidation, in particular, the process utilized during the elaboration and analysis of

² Activity I AR.1: Identification of barriers to NDC implementation
Activity I-AR.2: Analysis of instruments, policies and measures
Activity II-AR.1: Review mitigation actions in NDC, NAMAs and sectoral plans

consistency, may also be helpful for future five-year review cycles and successive iterations in the preparation of further NDCs.

As mentioned, evidentiary basis of the overall feasibility of intended decarbonization pathways to ratchet up stringency will be supplied. This will be done through the elaboration of a set of documents resulting from the initial analysis, that further elaborated, will be subsequently presented in a policy brief format, with the aim to provide inputs (information and knowledge) to public authorities at the three jurisdictional levels and to non-state stakeholders from, inter alia, industry, diverse production clusters, financial system actors, investors, regulators and supervisory bodies, civil society organizations and the epistemic community, including on issues such as:

1. Deep decarbonization pathways: rationale, relevance and limitations;
2. Scenarios in a range of hypothetical futures
3. Mitigation options, technologies and the plausibility of sociotechnical transitions in the political arena;
4. Barriers and constraints to change;
5. Examination of the financial sector's role in the transition to net zero carbon pathways and strategic resilience
6. Policy instruments and best options: new and adjusted and prioritized mitigation actions in key sectors
7. Overall impacts of the transition;
8. Investment opportunities to benefit from the long-term trends in the different sectors and in the international context.

The second tranche of this three-phase report, whose structure and sequence primarily respond to the submissions to the UNFCCC planned by the Argentinean government in 2020-2021, will elaborate further the issues listed on the preceding paragraph on the basis of new inputs to be provided by the other project activities that should feed into this elaboration for an LTS and into an enhanced subsequent NDC document.

It is worth noting that, conversely, the long-term vision or relevant elements of it will inform the conceptual framework for the different activities to be undertaken within the scope of the project in order to reinforce the transformational dimension of the entire analysis.

Consequently, key components of the study such as the:

- ▷ Barrier analysis;
- ▷ Mitigation actions assessment;
- ▷ Cost analysis;

- ▷ Feasibility analysis;
- ▷ Proposal of financial instruments;
- ▷ Portfolio of investments elaboration;
- ▷ Selected sector Investment Plan;
- ▷ Multiple stakeholder dialogues;
- ▷ Scenarios exploring risks and opportunities; and
- ▷ Financial landscapes

will benefit from the vision and overall goal of this delivered low carbon long-term strategy of which this report represents the initial phase.

II. The role of Long-Term Climate Strategies

1. Mandate and relevance

Article 4 of the Paris Agreement (PA) calls on Parties "to strive to formulate and communicate long-term low greenhouse gas emission development strategies" (LTS) and submit these to the UNFCCC by 2020. The process of that formulation, it is stated in the PA, should be mindful of Article 2 of the PA and should be considering common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, asserting, additionally, "that the PA should be implemented to reflect equity."

Further, the COP, by its decision 1/CP 21, paragraph 35, invited Parties to communicate to the secretariat of the UNFCCC by 2020, mid-century, long-term low greenhouse gas emission development strategies in accordance with the mentioned Article 4, paragraph 19, of the Agreement, without specifying requirements for future updates.

The architecture of the PA, in addition, deliberately puts countries solely in charge of how to determine and implement their contribution to the global net-zero effort, among the other global goals of the agreement; therefore, the LTS are an integral part of that nuanced architecture in which countries are directly responsible of their near term as well as their long-term increasingly astringent international commitments.

In the first place, then, there is clear mandate in the Paris Agreement for a well-defined LTS that should be communicated by the Parties. Submitting the LTS is part and parcel of the commitments made by Parties and as such is a key component of those.

Notwithstanding that, beyond adding to compliance with those elements that constitute that institutional responsibility, the LTS has a key role as a national planning instrument in unambiguously demonstrating:

- ▷ the rationale for the need to initiate a transition toward a decarbonised economy as fast as possible;
- ▷ that focusing on short-term implementation of insufficient ambition (incremental only mitigation) will most likely result in missing the long-term goal; and,
- ▷ that carbon neutrality by 2050 is technically feasible, economically viable, and socially advantageous.

2. An approach to definitions: conceptual and operational perspectives

Broadly understood, a strategy is a long-range plan for reaching a goal or achieving something, but also represents a way of doing something. A strategy defines and promotes medium or long-term objectives, describes the key elements for action that are necessary to pursue those objectives, and recognises relevant circumstances existing in the country or that may arise in due course, as well as attends to the overall context in which those actions and processes are to be implemented. Actions are not to be described in detail when formulating the strategy but core principles, defined ex ante, will guide the chain of successive decisions made towards the realization of the particular purpose envisaged.

In the case of low carbon long-term climate change strategies, the global, collective objective of those strategies, is unequivocal: at this point in the process of constructing an international climate regime, the final cause is that the goals of the Paris Agreement, in what concerns the country being elaborating that strategy, be accomplished or delivered in a timely manner; in practice, and more specifically as relates to mitigation, the target is holding the increase in the global average in temperature well-below 2°C and pursue efforts to limit that temperature increase to 1.5°C above pre-industrial levels.

According to the World Resources Institute, Parties' "mid-century long-term low GHG emissions development strategies" or simply "long-term strategies" are central to achieving the goal of reaching net-zero global emissions, limiting warming, and preventing some of the worst impacts of climate change. Indeed, long-term strategies play a key role in the transition toward net-zero emissions and climate resilient economies. These strategies set out long-term goals for climate and development and direct short-term decision-making to support the necessary shifts to limit global warming and lift people out of poverty.³

Further, an LTS should be considered as "an ongoing visioning exercise, which needs to align with policy implementation and planning at the sectoral level. Foresight into the future remains imperfect and only implementation will tell which strategies will be successful or not" (GIZ – New Climate Institute, 2020).

From a national perspective, the country, each country, has to decide its role and the magnitude of its contribution to the cooperative effort to address climate change; in other words how much a part of the burden is the country to assume -the key decision on burden sharing- on the basis of four key elements: the commitment already adopted through the first NDC submitted in the run up to COP 21 and eventual revisions; the willingness to raise the

³ Accessed at <https://www.wri.org/climate/what-long-term-strategy>.

ambition, as a minimum progressively, that is in essence primarily of a political nature; the legitimacy of the efforts pledged and the particular national circumstances, as is always the case for commitments under the Convention.

A long-term climate strategy is then to be an instrument that defines the overall blueprint for climate action that the country should comply with in the following three decades, if not longer, in an integrated and coordinated manner, in order to face the multiple and complex challenges posed by climate change at the national and global scale. In this regard, in the final analysis, long-term strategies constitute a linchpin between a national grand vision for the future, climate policy plans and actual climate action.

The strategy thus encompasses a multi-pronged course including not only the deployment of key long-term transitions towards a net-zero emissions development, but also the purpose of diminishing socioeconomic vulnerability and enhancing resilience to the adverse effects of climate change, decreasing inequality, as well as complying with the international commitments made by the country. Even if it is primarily a low emissions long-term development strategy, enhancing resilience, diminishing inequality and adapting to climate change are necessarily an integral part of the sustainable development process.

In addition, the LTS⁴ that the Paris Agreement calls for and the challenging process for envisioning, designing, legitimizing and implementing the strategy also plays a key domestic role at different levels. Firstly, it is central in enhancing and articulating planning and implementing capacities, promoting training and more broadly, monitoring and reviewing execution of plans and programmes, building and retaining capacity at all levels, a unique advantage if organized when embedded in a long-term integrated vision.

Then the process should be part of the diverse efforts to reinforce long-term stakeholder engagement by providing clear signals, guidance and evidence of the ultimate aim of the strategy. This element is key in a political context characterized typically by unstable political and social coalitions and increasingly conflicting views on what relevant policies should be best supported with divided or even fragmented societies. In this regard, the delivery of clear signals and the creation of significant incentives should be done in conjunction with the policies, measures and regulatory frameworks to embed in the long-term transformational mechanisms the means to ensure just transitions, access to resources and fair participation in the net zero

⁴ For the sake of simplicity, even if somewhat differentiated concepts both long-term low greenhouse gas emission development strategies and long-term climate strategies are denoted with the acronym LTS, alluding to the more comprehensive concept of long-term strategies in the context of climate change.

climate resilient economy that is to be built as a consequence of the long-term transitions to be deployed.

Finally, the LTS process helps in shaping the array of policy packages required to deliver the national share of the Paris climate goals and enhancing coherence in design and implementation, and launch and sustain socio-technical transitions, while accomplishing other development priorities, in particular those related, in the medium term, to Sustainable Development Goals and ensuring a just transition. Thus, long-term strategies must aim at wider development objectives side by side with climate-oriented goals.

3. Intertemporal consistency

In this regard, an LTS can remain significant, throughout periodic changes in governmental administrations and variations in policies resultant from the inevitable consequences of regular election cycles; in this way a measure of certainty is provided to all stakeholders in spite of the natural variability of democratic polity. In particular, this allows for maintaining the right signals that should be given to those stakeholders that may be planning to make large capital investments that might have a prolonged economic life and thus require a longer planning horizon and the persistence of regulatory frameworks throughout extended periods.

It is worth highlighting that from an economy wide point of view, 2030 emissions targets and policies and the measures to be applied to attain those targets, need to be realigned with global net-zero emissions objectives by 2050-2070 to ensure intertemporal consistency of the domestic plans; the LTS also functions as a formal reinsurance to that necessary coherence. This consideration requires a well-established and sound revision cycle of the LTS itself, as well as verifying the continuous coherence of the succession of NDCs with the longer-term perspective embedded in the LTS. Harmonization of iterative revision cycles of these key planning and implementation instruments is, therefore, of utmost importance.

In addition, there is a need to ascertain that emission reduction targets and plans to accomplish those objectives allow for other strategies and processes taking place in the country in order to avoid conflicting goals that would hinder achieving planned objectives, in particular at the sectoral level.

In this connection, in Argentina, the National Cabinet for Climate Change (GNCC) was created in 2016 and then enacted by Law N° 27.520 (Minimum Standards National Law on Adaptation and Mitigation to Climate Change). The Cabinet is a collegiate body chaired by the Head of the Cabinet of Ministers, whose objective is to articulate between the different areas of the National and Subnational Public Administration, the Federal Council of Environment (COFEMA, in Spanish) and different actors of the civil society. This institutional arrangement, among other

functions and responsibilities, aims to ensure internal coordination of planning and implementation processes related to climate change strategies, programmes and plans, as well as considering the alignment of long-term visions and mid-term targets and, also, compliance with international commitments.

To that end, it is necessary to design appropriate short and medium-term climate and sectoral policies that are continuously (regularly) updated to ensure that they are optimally aligned with the longer-term targets. That process is necessary, in addition, to disincentivize inadequate potential investment flows that would lead to further reinforcing the lock-in in line with intensive GHG emissions traits of existing capital stocks. To do this successfully it is particularly required to avoid time inconsistency in market incentives aiming at mobilizing private resources.

In other words, LTSs should provide an overarching policy framework to achieve more ambitious NDCs and mitigation policies. That is to be done by both articulating and proclaiming a vision of specific sustainable development outcomes that, in the context of global climate change, are centrally associated with achieving deep decarbonization and climate resilience by mid-century. The governance regime for such a key process should encompass and integrate the executive, legislative, regulatory, subnational, and stakeholder governance systems.

It is also necessary to identify the most appropriate sectoral pathways to get to the proposed objectives. In this regard, a sequential assessment framework should be put in place in order to verify that short and even medium-term policies may not hinder the long-term planned trajectories. Finally, the LTS enunciates the principles that would shape the transformational process from a deontological perspective.

Moreover, given the inextricable relation in between mitigation and adaptation, notably from a long-term viewpoint, the LTS should comprise guidance on adaptation to climate change, as well as on processes for continuous risk assessment, that consider the vulnerability of each specific sector and group and the potential future evolution of impacts, and consequently of risks patterns, along the planned period, to be considered in line with a multiplicity of long-term high-level policy challenges not directly associated to addressing climate change.

In this regard, it is necessary to explore further the needs for climate adaptation of private investment in infrastructure and in productive capital stocks. Infrastructure typically has a long lifetime: investment decisions taken today may influence national development pathways for many decades.

Along the same lines, it is necessary to discern how to stimulate efforts to catalyse investment in strengthening the resilience of public and social infrastructure, as well as infrastructure aimed at facilitating and increasing competitiveness of industry and trade.

4. Elements of the LTS

As the Paris Agreement does not elaborate further on specifications for the LTS and there is no broader common understanding on the scope and format of this instrument, or of the process for formulating that instrument, a number of different institutions (*inter alia*, the 2050 Pathways Platform, LEDS Global Partnership, the NDC Partnership, the UN Development Programme, the World Resources Institute, the UN Framework Convention on Climate Change Secretariat, IISD, the NDC Partnership and IDDR) that provided guidance on the elaboration of a long-term climate strategy to 2050 and beyond, refer to content and process from manifold perspectives, highlighting issues related to:

- ▷ Governance
- ▷ Process
- ▷ Technical soundness

The IIED identifies seven key elements to be included in an LTS⁵:

- ▷ Long-term vision and actionable policy options
- ▷ Political leadership
- ▷ Responsibility allocation
- ▷ The oversight role
- ▷ The technical leadership
- ▷ The whole government approach
- ▷ The whole society approach.

The New Climate Institute, on the other hand, states that the LTS should encompass the following eight key elements, indicating that the LTS should⁶:

- ▷ be about the process and not the document;
- ▷ include pathways for GHG emission until 2050 and beyond;
- ▷ encompass all sectors of the economy, while providing sectoral pathways;
- ▷ be an ongoing envisioning exercise;

⁵ Abeysinghe, A. Seven Key Elements for a Successful Long-term Climate Strategy (LTCS). IISD.

⁶ NewClimate LTS Hub: Information on developing long-term strategies. Access in: <https://newclimate.org/lts-hub/>

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- ▷ encompass extensive coordination efforts;
- ▷ reflect on immediate next steps;
- ▷ quantify finance needs and clarify other support required;
- ▷ align with Sustainable Development Objectives.

Commenting on the same matter, Nicholas Stern underscores that the major elements to be considered as key for the elaboration of a long-term strategy include investments, geographies, and technologies, as well as well-designed policies and institutions and a set of seven principles, comprising⁷:

- ▷ Recognition that government-induced policy risk is a major deterrent.
- ▷ Recognition that development, mitigation and adaptation are intertwined and mutually supportive.
- ▷ Focus on dynamics: centrality of learning; avoidance of lock-in of high-carbon infrastructure and capital
- ▷ Distribution and inclusion both from a justice and strategic perspective
- ▷ Tackle key market failures (i.e. capital markets, networks, information).

It is worth mentioning that the conceptual framework that having a consolidated LTS makes available, is particularly useful, as it allows to foresee the longer-term implications of alternative mitigation options and avoid making short-term incremental mitigation efforts that could deviate climate action from adopting fully transformational pathways.

That framework, in addition, facilitates aligning near-term national plans with the long-term goals of the Paris Agreement. According to Tvinnereim and Mehling, to achieve the temperature goals laid out in the PA, requires a systemic transformation of the economy, rather than gradual optimisation of emitting technologies, and net emissions declining to zero.

The existence of a long-term strategy contributes to ensure that decarbonizing the economy and phasing out all emissions is effectively achieved, instead of following a path that merely progresses on a succession of short-term incremental reductions relative to the typical business-as-usual trajectories, originally considered as the basis for measuring climate mitigation efforts (Tvinnereim and Mehling, 2018).

In the process of preparation and updating of an LTS, an iterative one allows for revisions, adjustments and improvements, correlated to significant changes in national circumstances, while innovative technologies mature, better information and knowledge is made available,

⁷ Stern, N. Core Principles and Foundations for Building a Long-term Country Strategy for Tackling Climate Change.

and the planned global stocktake proceedings provide updated information on the context for the needed national ambition and the potential revision of targets. It also helps to translate the Paris Agreement mitigation goals, essentially of a global nature, into a strong national narrative and language to aid dissemination of information and facilitate societal understanding and participation and private sector engagement.

According to "A guide to policy makers on how to develop an LTS for submission in 2020 and future revision cycles" (Hans, 2020), three levels of comprehensiveness for LTS development can be described:

1. Base version: this entails a starting point for LTS development where limited resources are available. In a base version, governments can acknowledge scientific findings, introduce a statement on the intent to fully decarbonize or focus only on selected focus sectors.
2. Intermediate version: elaborated version of LTS with indication of existing knowledge gaps on thematic areas that require further support/ work for next review cycle. In this version, governments include first estimates of Paris Agreement aligned scenarios, indicative targets and describe focus sectors (with other sectors in lesser detail)
3. Detailed version: Comprehensive version of LTS based on in-depth underlying analysis. This version entails country-specific Paris Agreement aligned scenarios, targets enshrined in national policy and information of all sectors in detail

Moving forward from a base to a detailed version, implies increasing efforts necessary to better demonstrate alignment of ongoing, short and medium-term actions and interim targets with the LTS; understanding on mobilization of domestic and international finance and technology resources over time; mainstreaming of sustainable development and just transition considerations; as well as transparency in communications.

In addition, the existence of a robust, ambitious, continuously updated LTS may facilitate the process of articulating with other core elements of national planning, including those related, *inter alia*, to:

- definition of long-term productive profiles,
- type and scope of participation in international markets,
- specialization and diversification,
- international partnerships to be pursued,
- effective and rigorous application of environmental principles in a changing world,
- biodiversity protection,
- equity and inclusion considerations,
- improvement in long-term income distribution trends, and,

- ▷ human rights considerations.

Given the overriding role of finance -as an instrumental component- in enabling the process to accomplish the long-term transitions to achieve carbon neutral economies and resilient societies by 2050, together with the significance of the LTS in providing strategic orientation to those transformations, the LTS should, therefore, devote a substantive chapter to consider the contribution of and the need for sustainable finance to make the overall objectives feasible as well as the more specific objectives laid out in the LTS achievable.

In this regard, the LTS calls for an in-depth analysis of the approach and requirements to financing the successive NDCs and the ultimate attainment of the LTS, both from an overall national perspective (economy wide, across the territory, federally planned), as well as from a sectoral focused perspective, considering the expected long-term productive profile of the national economy and its key sectors and the changing international context in which the national economy evolves. Furthermore, technological change also constitutes a vector of radical and accelerated change in a world intensely defined by innovation and by the disruptive effects on new technologies on level of activity, regional economies and employment.

We view here both the national and international dimensions of sustainable finance in only a preliminary manner, as the necessary in-depth analysis is to be developed in the next tranche of this three-phased activity, just as indicated before in section 2 of this report.

Notwithstanding that, in what follows we nevertheless succinctly outline some of the major elements of the analysis to be undertaken, once progress has been made in the different activities being undertaken under this project.

Considering the international arena in which the LTS is to be embedded and its potential progression in the first place, it is worth underscoring that there may be at least two different international scenarios in the long run, by mid-century, to be explored.

Firstly, we recognize the possibility of a non-disruptive scenario in which major features of the currently prevailing global economy and the international financial system remain essentially unchanged, with only non-structural or minor modifications; and, secondly, we identify a disruptive scenario which is defined by significant changes in the major patterns of global economic dynamics and in the reform of the architecture and modalities of the international financial and monetary systems; those unavoidable mutations would result from the current imbalances in those major systems and the disruptions created by the ascendant trends in global power, economic contention and geopolitical collisions.

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In each of these two scenarios there are different risks and opportunities to be accounted for when developing a long-term national strategy, as well as obstacles to achieve the diverse goals the strategy might comprise.

Key elements of those transformations may include the building of a new international financial architecture to replace the one based on the Bretton Woods system created by the Agreement ((Bretton Woods Agreement, 1944), addressing increasing changes in international reserve currencies equilibria, and growing inadequacy in the major institutions to face growing turbulences in the monetary system and in the dynamics of capital flows, that stem from a persistent combination of growing geopolitical, economic and policy uncertainties, as well as creating mechanism and instruments to solve the external debt crisis of a large number of developing countries.

At the national level, on the other hand, it is worth noting that there are different dimensions to be considered in terms of the role of sustainable finance to be integrated in the LTS being developed. In the first place there is a need to clearly determine the financial sector's role and relevance in the arduous transition to a net zero economy. Secondly, there are a number of issues associated with the process to be launched towards strengthening the foundations of sustainable finance at the country level and the existing gaps and limitations in doing so. Thirdly, there is a need to redress investment shortfalls by designing the appropriate mechanism to bridge existing gaps including by applying innovative financial instruments and accessing to new financial sources in the increasingly complex international financial system and markets.

Therefore, even before examining the approach and requirements for the financial dimension from different angles (readiness, needs, approach) and analyzing the means to financing the NDCs/LTS, we think it necessary to envision the role sustainable finance is to play in facilitating and promoting the long-term socio-technical transition leading to carbon neutrality and climate resilience.

However, it is worth noting that discussions on the relationship between climate change and the financial system were still largely in their early stages until very recently when climate change's potentially disruptive impacts on the financial system have become more apparent and the decisive role of the financial system on climate change mitigation has been emphasized from different perspectives.

Secondly, and given the dimension of natural resource endowments Argentina has, it should be also made clear that a framework to assess evolving nature-related risks is necessary to provide science-based information to stimulate a shift in financial flows at the country level. This assessment should be made to move investments away from nature-negative outcomes

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toward nature-positive ones. This shift is in a way relatively independent of the international commitments made by Argentina in line with the Paris Agreement. The framework should be closely related with the establishment of a process to assess changes in climate policies, new technologies and growing physical risks; that process allows for the reappraisal of the financial assets that are part of the portfolio of financial institutions in Argentina.

Complementarily, it is essential to envisage the necessary policies and measures and the crucial regulatory reforms to be introduced in order to progress towards sustainable finance, acknowledging that the development of a more sustainable financial system has not yet advanced fast enough in Argentina, in particular when considering the requirements newly stemming from the adopted net zero objective, as part of the overarching goals stated at the highest national decision-making level.

III. Status of Argentinian strategic climate planning

1. About long-term strategies and national climate policy

The nature of climate change is a challenge to policy making in any given society due to, inter alia, uncertainty, long-term horizons, inertia, quasi irreversibility, global externalities, and non-linearity.

The nation-state, the basic locus for the internalization of externalities related to climate change action, is heavily limited in its capacity to effectively play that role in addressing climate change given the scale of the climate change externality. Notwithstanding that, the state has a crucial role in setting an appropriate framework for climate action, using diverse policy instruments to lead, promote, induce and support action, in particular, but not exclusively, in matters related to adaptation.

In democratic societies, however, it can be said, following Giddens, that the political agenda is primarily driven by the immediate concerns of voters and the question is thus how long-term issues are dealt with in societies that tend to be dominated by the short-term voter's perspectives and priorities (Giddens, 2011).

Planning can play a key role in addressing climate change mitigation and adaptation needs, but in order to do so, it is necessary to make binding long-term decisions, which exceed the time limits imposed by regular changes of government. That is in particular, the case with the creation of the LTS.

Further, cross-party consensus, even in key issues, is very difficult to achieve given the tendency of political parties to try to benefit from the short-term losses of political capital to be suffered by governing parties or coalitions due to the unwarranted effects and costs of a policy which benefits are to be made effective far into the future, if at all.

In addition, mitigation in particular, at this point in time, is primarily a matter of transformational efforts and those basically implicate changes in lifestyles and production patterns that would allow to achieve drastic emission reductions, but it might be politically inconvenient or there would be no gains in trying to persuade citizens (voters) and economic agents to modify or abandon deeply ingrained habits, through taxation or other means, to contribute to a global good, to prevent future outcomes that are to be most likely very bad, but uncertain.

Climate change policy might thus help to create, beyond its specific goals, tensions among policy objectives, distributional and fiscal conflicts, and affect social welfare and justice. Some policies may even have regressive effects and the contrast between the declared need to do and the immediate impact of doing could constitute an additional barrier to action.

Climate change policies and measures for mitigation and adaptation will impose new demands on governments that are already struggling to reconcile diverging policy goals and trying to recover from the impacts of the pandemics. The proposals for allocation of funds and budgetary resources to climate change response compete to be financed with social expenditures and in developing countries with what is, most frequently, a huge social debt, in a time of at least temporary declining growth and still rising inequalities.

The pandemics and the need to adopt huge recovery plans create additional stresses on economic, financial and budgetary systems heretofore struggling with enduring imbalances of an altogether distinct origin.

In the case of Argentina, some of the characteristics that define the nature of the climate change challenge conflate with the particular traits resulting from weakened governance and institutional settings and, thus, in the past prevented the political system to address them in an optimal manner.

By a weak institutional environment, we understand one in which enforcement of rules is low or uneven, and formal rules are not stable and subject to changes. Rules and institutions can change frequently, unexpectedly and at times with dramatic and unexpected effects.

During long periods, climate change issues have not been able to reach the highest decision-making levels in the federal system (albeit with a few exceptions), due primarily to preference for the avoidance of risks and misperception of opportunities and needs, primarily at the second-tier authority level, in a polity environment predominantly characterized by persistent political myopia.

High level authorities have been decisive in selecting issues towards the national policy agenda that focus primarily on short term political gain and typically exclude those that imply a measure of complexity, have low political visibility or which benefits will only be realized in the long-term.

More generally, theoretical work has increasingly agreed in highlighting that addressing climate issues is challenging for the political elites in most democracies due to three major reasons: the difficulty of imposing short-term costs on voters for benefits that will eventually arrive only in the future, uncertainty about whether those future benefits will materialize, and

being able to overcome opposition from cost-bearing organized groups with high blocking capacities.

This typical behaviour is also reproduced in the country by almost the entire political leadership; doing so has also been made feasible because of the insufficient societal perception of the relevance of addressing climate change, so that politicians were typically able to pay a very low cost for inaction or delay.

In some more excruciating cases of extreme weather events, in particular floods, climate change was used as an alibi for inadequate or missing planning and design, incomplete infrastructure works, delayed investments, or diversion of funding to other needs, by arguing that it is impossible to prevent disaster caused by climate change extreme events and thus there is no fault in governmental action, rather the chaotic, unexpected effect of random nature's wrath.

Global climate change represents a significant issue for Argentina. Direct impacts are large and severe on human society and ecosystems, while second order effects may have harsh and lasting impacts on the national economy, specific sectors and key value chains and regional productions.

Further, since agriculture and food production play a key role in the national economy, the consequences of adverse effects in those sectors are a source of concerns related to observed and projected impacts on production and productivity in this sector, as well as, due to second order effects, on national income, trade, employment, fiscal revenues, transfers and direct subsidies.

In addition, the stance Argentina adopted in relation to its views on the challenges posed by climate change may be now defined (but also during former governmental periods) essentially from a human rights perspective, including those rights to health; to food, water, shelter and property; rights associated with livelihood, culture and gender; with migration and resettlement; and with personal security in the event of conflict, and, more broadly, with the right to life including from a biodiversity and ecosystems perspective.

At the national level, the perceived goals are to foster adaptation by assessing the projected climate change impacts and studying the most vulnerable sectors and areas in Argentina, identifying necessary priority adaptation actions, strengthening adaptive capacity at the different national, sub-national and local level, and enhancing climate resilience - in particular in the case of the most vulnerable groups-, while establishing an enabling framework for the implementation of adaptation measures, strengthening adaptive capacity and promoting full integration of climate change into national sustainable development strategies and sectoral programs and plans.

Additionally, on mitigation, proposed actions are generally focused on assessing in detail and enhancing mitigation potential in the main economic and GHG emitting sectors in Argentina, aiming at identifying priority mitigation measures and at the inception of an enabling framework for the implementation of mitigation measures, while integrating climate change into national development strategies and sectoral plans and programs.

There can be different estimations or appraisals on whether the contribution of the Argentinean economy to global emissions is fairly large or small according to different assessment criteria, including the consideration of its historic contribution to global climate change. In any case, one of its key features is that the level of emissions of the country is at least partially independent of the level of domestic economy activity as, in terms of agricultural product (a cluster of key value chains in the country economy) production trends and decisions are significantly driven by international food and primary products demand.

In that regard, at least a significant part of national GHG emissions are expected to keep growing unless sustained and effective but rather complex efforts are made to decouple emissions from AFOLU from physical production, decreasing the carbon intensity of the economy in relevant production sectors that are as well significant sources of emissions.

The efforts to mainstream climate change, enhance coordination, integrate climate change dimensions into public policy design and implementation, strengthen the information base in a systematic manner, as well as expanding the capacity to effectively model climate change impacts and assess major vulnerabilities, constitute the core of a national climate change policy construct.

Notwithstanding the emphasis on social and economic sustainable growth, poverty alleviation and a just transition, as national priorities, the Government of Argentina has also established the framework for a national strategy that encompasses mitigation efforts in key sectors. This approach recognizes the synergies between mitigation opportunities and other sectoral policies –in particular in the energy, transport and AFOLU sector -, the potential for competitiveness gains and the need to pre-empt border tax adjustments resulting from differentiated regulatory obligations.

The inevitably imperfect nature of institutional constructs, withering political momentum, and the severe effects of economic crisis and its social consequences on policy resource allocation, have created in the past formidable hurdles and hindered the process of development of an integrated national response strategy to climate change.

Further, as regards the transition to a net zero carbon economy, Argentina has equity considerations and concerns related to potential negative impacts of mitigation actions on employment, dynamics of labour markets, effects on income distribution and that some of

those productive sectors might be adversely impacted by the consequences of those actions, that might be aggravated by climate change mitigation policies, as well as through various effects on the dynamics of secular growth.

However, according to the second NDC, achieving carbon neutrality will require long-term structural changes commencing with a gradual action plan in the short term. Climate action contributes to drive efficiency and innovation, entailing an opportunity for structural change in the entire production structure, aimed at achieving economic revival, generation of new jobs and improving the economic competitiveness of national production, within a just transition framework.

Along the same lines, the Scaling Up Climate Action in Argentina Report, by Climate Action Tracker, highlights that "Accelerated climate action in Argentina can generate significant socio-economic co-benefits that help promote the national sustainable development agenda. These include low and high-skilled employment in low-carbon-oriented sectors, a reduction in adverse health impacts from air pollution, and increased participation and social justice in mobility and housing" (CAT, 2019).⁸

There is a need then to develop empirical studies at the national level to support hypothesis related to the effects of mitigation policies on job creation, income distribution and, more broadly, on achieving the Sustainable Development Goals, as understood in the context of Argentina's sustainable development policies and national priorities. The notion of a "just transition" has been therefore fostered as a conceptually nuanced counterpoint to a mere low emissions development approach.

Moreover, moving towards a zero-carbon economy will enable access to new and/or better financing conditions, expand the possibility of exploring new and innovative financial instruments to facilitate climate action and preserve access to different markets to export products and services.

2. The LTS long-term low greenhouse gas emission development strategy

The low greenhouse emission Long-term Development Strategy elaboration is included by the country as a strategic commitment in the Second Nationally Determined Contribution (NDC) that has been recently announced by the Argentinean President in the Climate Ambition Summit 2020 (12 December, 2020), while at the same time stating that Argentina has the objective of becoming net-zero CO₂ by 2050.

⁸ See at <https://climateactiontracker.org/publications/scaling-up-argentina/>

Actually, the second NDC -made publicly available on 17 December in a still draft version open to comments- states that Argentina will submit its low greenhouse emission Long-term Development Strategy, in accordance with Article 4, paragraph 19 of the Paris Agreement and Decision 1/CP.21, paragraph 35.⁹

The Government of Argentina has worked since the beginning of this year on the elaboration of the Long-term Development Strategy and is planning to submit it to the UNFCCC during COP 26 to be held in Glasgow in November 2021.¹⁰

It is worth noting that by the end of 2019 Argentina enacted its Law N° 27.520, the so-called Minimum Standards National Law on Adaptation and Mitigation to Climate Change,¹¹ that establishes minimum standards for environmental protection, aims to ensure actions, instruments and appropriate strategies of adaptation to and mitigation of climate change, throughout the entire national territory.

During the first online meeting of 2021, when the Secretariat of Climate Change, Sustainable Development and Innovation interacts with civil society regarding activities of the National Climate Change Cabinet (GNCC, in Spanish), (the so called "Mesa Ampliada"), some advances in the development of the LTS were presented.

A first draft of the LTS structure was then shared, which is displayed in the following diagram.

⁹ GNCC (2020). 2da NDC Argentina – Borrador. December 2020. Pag. 45.

¹⁰ GNCC (2020). 2da NDC Argentina – Borrador. December 2020. Pag. 31

¹¹ "Ley de Presupuestos Mínimos de Adaptación y Mitigación al Cambio Climático Global"

LTS structure



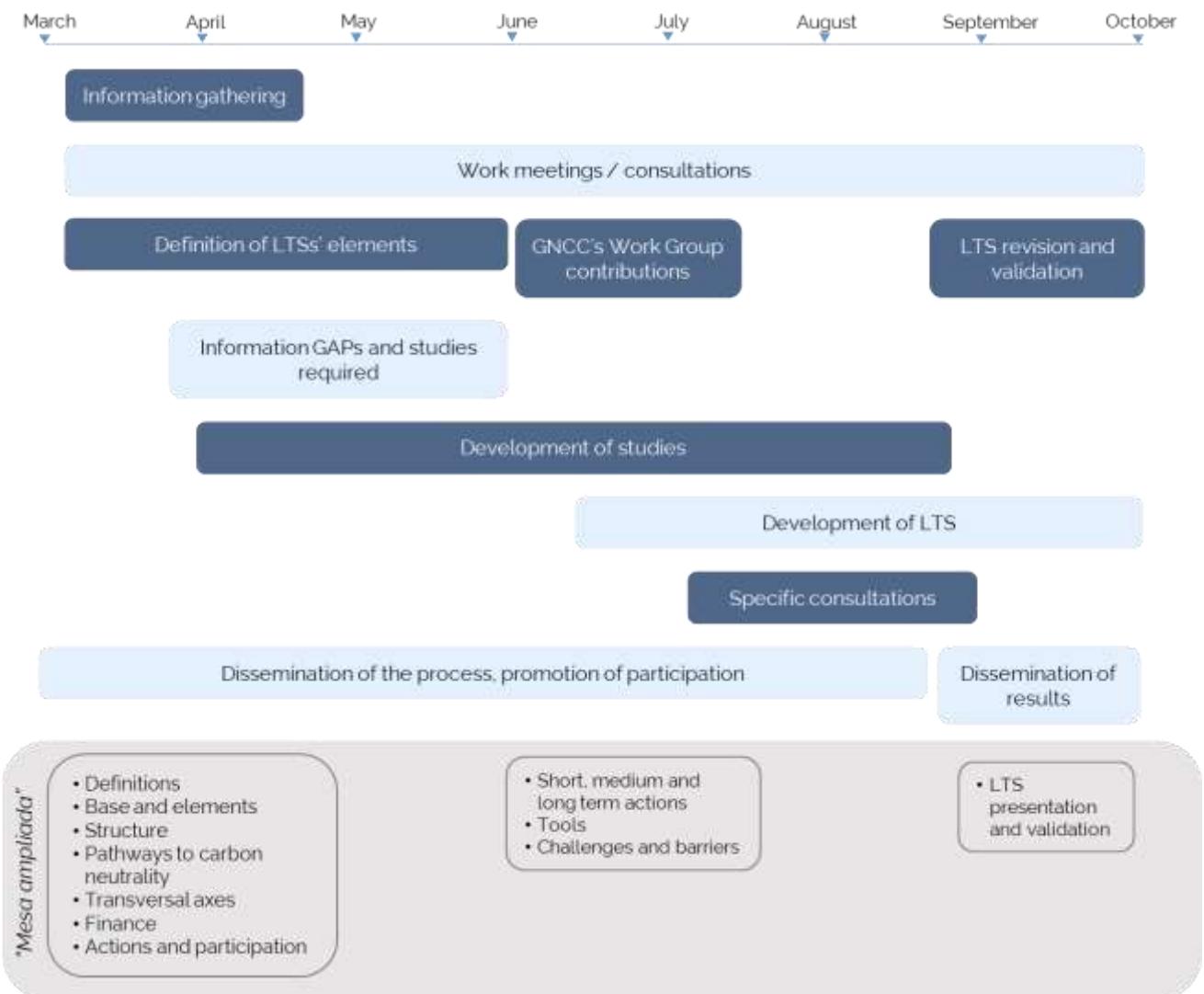
The Long-term Strategy is being conceived as a guide for climate actions to have an adequate framework that contributes to adapt and mitigate climate change, but also to have a broader view that plays a part in achieving a sustainable development. In order to accomplish this, the actions included in the LTS must address a number of transversal axes, meaning that they cross the different productive and economic sectors and the different Ministries and have a regional approach. Additionally, the analysis of actions planned will consider environmental and social integrity, which is understood contemplating the following four pillars, as presented in the following diagram

Economic	Environmental	Social	Governance
<ul style="list-style-type: none"> •productivity •trade balance •production diversification •energy efficiency •contribution to technology development •contribution to circular economy •economic cost-benefit 	<ul style="list-style-type: none"> •soil •water •air •native forest •biodiversity •natural resources •environmental services •ecosystem-based adaptation and other nature based solutions 	<ul style="list-style-type: none"> •territorial development and community based solutions •impacts on employment •impacts on health •access to services •gender equality •education •participation •labour just transition 	<ul style="list-style-type: none"> •interinstitutional articulation •social conflictivity •participation •food sovereignty •energy sovereignty

The definition of long-term actions will be based on the National Climate Change Adaptation and Mitigation Plan, as well as the different Sectoral Plans and the Subnational Response Plans, amongst others.

During the presentation, the different actions planned in order to achieve the development of the LTS were shared, highlighting the importance of the engagement process between the Secretariat and the civil society, that occurs within the framework of the *Mesa Ampliada*. The following diagram presents the different planned stages that will take place from March to October 2021 and the information expected to be exchanged related to the process of developing the LTS during the following *Mesas Ampliadas*.

LTS current elaboration process



Regarding climate finance, a special chapter will analyze different financial instruments that may be considered to implement the required transformations, including:

- Public international finance
- Private finance
- Specific climate funds (such as the GCF and the mechanisms under the UNFCCC)
- Carbon pricing mechanisms, including taxes
- Subsidies

Moreover, it should be noted that the Secretariat of Strategic Affairs of the Presidency is actively working in enhancing climate finance programming. To that end, it will develop the

"Country Programme", defining mechanisms to better engage with GCF and other sources of climate finance, strengthen local capacities and promote stakeholder engagement. This process and its results, could potentially contribute towards a robust climate finance strategy for Argentina that will allow to align climate commitments with their necessary financial flows, and also to send clear signs to key actors of the financial sector to invest in low-carbon and/or climate resilient projects. A more strategic approach could unlock larger volumes of climate finance, including from the private sector.

3. The second NDC

According to the UNFCCC, Nationally Determined Contributions (NDCs) embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve.

Parties shall pursue domestic mitigation measures, with the aim of reaching the objectives specified in national contributions.

The PA then asserts that successive nationally determined contributions will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition (Article 4, paragraph 3). Enhanced support to developing country parties will allow for higher ambition in their successive NDCs. Each party shall communicate a nationally determined contribution every five years, while a party may at any time adjust its existing nationally determined contribution with a view to enhancing its level of ambition (Article 4, paragraphs 9 and 11).

Argentina's previous NDC target consisted of an absolute unconditional emissions target of 482.7 MtCO₂ eq by 2030, and a conditional target of 369 MtCO₂ eq, subject to the availability of international climate finance.¹²

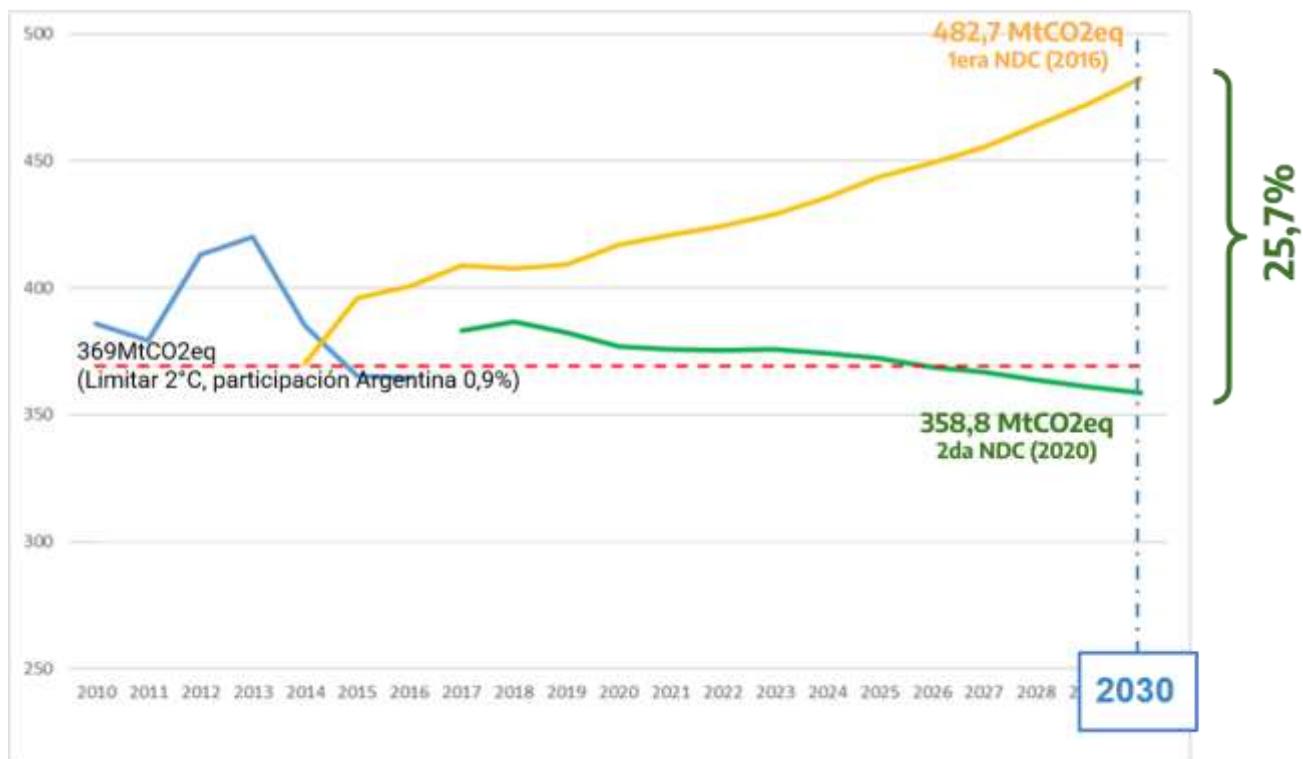
In the case of Argentina, the Second NDC official document, that was in preparation, has been made available for comments in December 2020. A draft document has been circulated among key stakeholders and was open for comments for a period prior to submission, even if during the preparation there were several different instances of participation to facilitate consideration of the document, by making use of the different levels of participation structured under the GNCC, including the diverse focal points, provincial articulation and expanded panels and by means of the organization of diverse workshops.

¹² Argentina has already revised its first NDC and submitted a revised version in 2016.

The Second NDC also states that this new contribution reflects the national sustainable development priorities in the long-term, as related to the necessary means of implementation to materialize the climate actions comprised in the NDC.

The Second NDC, after describing Argentina's national circumstances, presents a new absolute mitigation target to be accomplished by 2030, stating that the country will not exceed net emissions of 358.8 MtCO₂eq in 2030 (including LULUCF). This amount implies a 25.7% reduction in the national emission target by 2030 against the previous NDC unconditional target, which indicated the target was to be 482.7 MtCO₂eq. This target has been seen by some observers as a significant improvement from the previous unambitious target.¹³

Figure 1: Mitigation target - 2030



Source: Mesa ampliada del Gabinete Nacional de Cambio Climático (2020)

In order to state clearly and in a transparent manner the commitments adopted in this contribution, the Second NDC presents the information following the modalities, procedures

¹³ See Climate Action Tracker. Access in: <https://climateactiontracker.org/climate-target-update-tracker/argentina/>

and guidelines for the transparency framework for action and support according to Decision 18/CMA.1.

This NDC also presents its Adaptation Communication pursuant to Articles 7.10 and 7.11 of the Paris Agreement.

Moreover, the Second NDC includes an initial, non-binding and non-exhaustive analysis of the prioritized means of implementation. Mitigation measures are grouped in axis in the different National Sectoral and Climate Change Action Plan. For each axis, levels of support required in terms of capacity building, technology development and transfer, and concessional financing are established, using a three-scale estimation (high, moderate and minor).

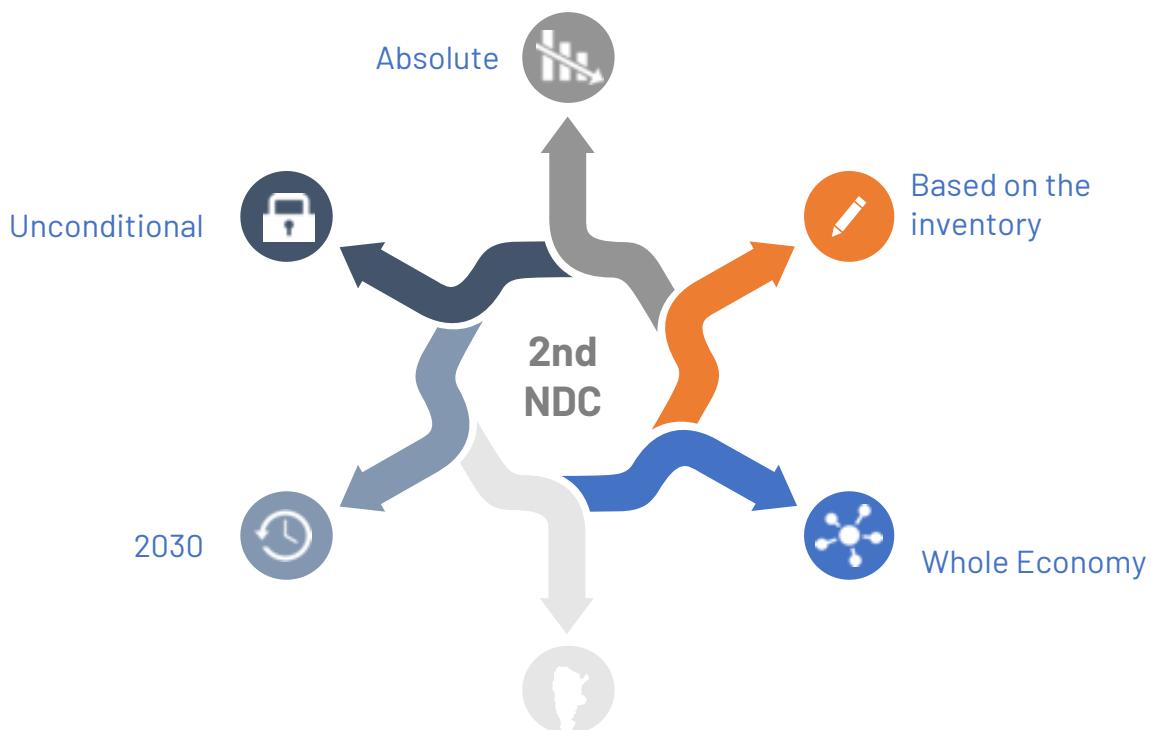
The NDC refers to different initiatives that the Government has been undertaking in order to secure financial resources needed to address the country's commitment:

- Creation of the Sustainable Finance Working Group with the aim to design the enabling framework to align financial flows with the promotion of the 2030 Agenda and climate action in Argentina, as well as to strengthen the country's position in relation to the regulation of Article 6 of the Paris Agreement
- Creation of the International Finance Unit, that will be responsible for evaluating, prioritizing and following up on the projects that the country submits to climate investment funds and multilateral and bilateral lending agencies.
- As previously stated, the Undersecretary of International Financial Relations for Development, under the Secretariat of Strategic Affairs of the Presidency of the Nation, in liaison with the GNCC, will develop the Country Programme with the objective of coordinating with the Green Climate Fund and other funds oriented to climate finance. Likewise, in the annual programming of other multilateral and bilateral credit agencies, it will seek the inclusion of financing for climate change projects
- In order to increase the transparency and traceability of the State's climate investment, the National Budget Office of the Ministry of Economy and Public Finance is working on the identification and labeling in the National Budget, of activities and programs related to adaptation and mitigation.
- Argentina's 4th BUR (to be presented in 2021) will report the needs and support received in terms of international cooperation, formulated on the basis of a robust and transparent national methodology in such a way as to allow for continuous and consistent follow-up.

Through these instruments and initiatives, the Argentine Republic will develop its long-term climate finance strategy based on the correct identification of needs and priorities.

The major attributes of this new NDC include, *inter alia*, its being more ambitious, the integration of a communication on adaptation and the announcement of the low emissions long-term strategy with the overall aim that the country be carbon neutral by 2050, while preserving equity and inclusiveness, emphasizing collective and individual responsibility and calling for reinforced means of implementation given the country's investment, technology and capacity needs.

Figure 2: Second NDC



Source: Adapted from Mesa Ampliada del Gabinete Nacional de Cambio Climático

The NDC further specifies that the target to be reached by 2030 is an absolute one, unconditional, based on the best available science and on the information on GHG emissions provided by the national inventory, encompassing all sectors and with an economy wide scope, and covering the entire national territory, given its federal approach.

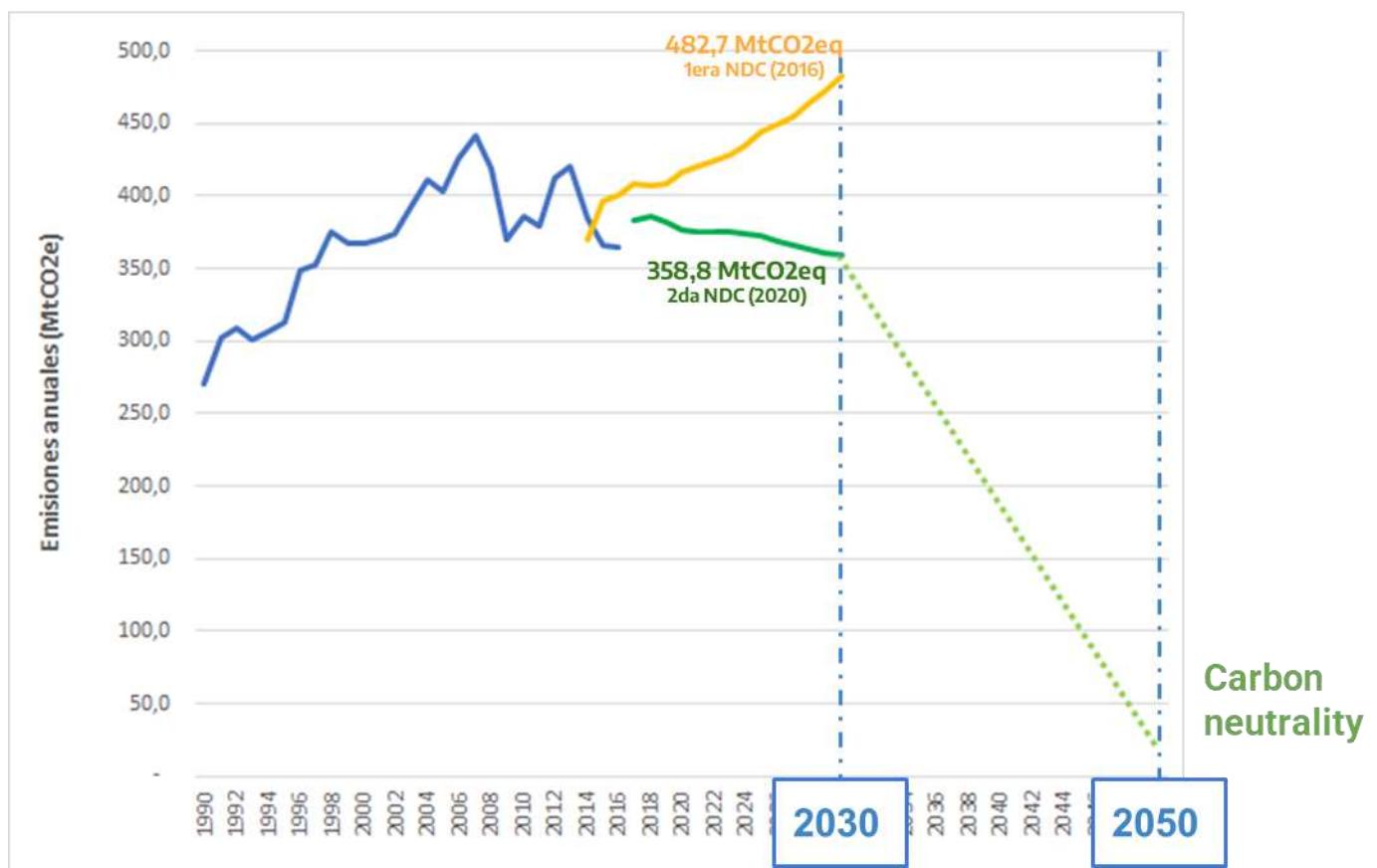
The NDC also spells out a vision 2030 that shall guide the implementation of the Second NDC, pursuing the 2030 Agenda and the achievement of the Sustainable Development Objectives (SDGs). This vision was built considering the need for equity in global effort to address climate change and the principle of common but differentiated responsibilities and respective capacities, as well as the national circumstances as a starting point for national efforts.

However, the Vision 2030 embedded in the NDC does not formally integrate the NDC itself, it is presented only in an informative manner, and its elements and definitions do not make part of the target proclaimed by the NDC.

Furthermore, as mentioned, the country aims to achieve carbon neutrality by 2050, as its overall long-term mitigation target (See Figure 3 below).

Notwithstanding that, it is worth noting that the LTS will be further elaborated pursuant to its submission by the end of 2021, while the final version of the second NDC is still to be submitted, even in advance of the pertinent date.

Figure 3: Mitigation target - 2050



Source: Mesa ampliada del Gabinete Nacional de Cambio Climático (2020)

Finally, it must be pointed out that in April 2021 during the Leader's Summit on Climate, President Alberto Fernandez announced a 2% increase in NDC ambition. This amount implies a 27.7% reduction in the national emission target by 2030 against the previous NDC unconditional target.

President Fernandez emphasized the relevance of climate finance: "The agenda is clear: Mobilization of concessional and non-reimbursable resources, channeled through multilateral and bilateral banks, with agile and transparent processes. Payments for ecosystem services and debt swaps for climate action. New allocation of Special Drawing Rights, without discriminating against middle-income countries, to improve our environment. Reconfiguration of the analyses carried out by risk rating agencies, so as not to distort the reality of our countries. And attention to the phenomena of irresponsible over-indebtedness -provoked before the pandemic and aggravated by this virus-, with greater flexibility in terms, rates and conditions"¹⁴.

Stakeholders' dialogues, some outcomes

The outcomes of the different stakeholders' dialogues sessions organized in 2020, revealed a propensity to consider climate change action as being increasingly part of the agenda for plans and activities at the sectoral level and sub-sectoral level considering increasing knowledge on climate change risks but also on new opportunities being provided throughout the transition. Some of the comments made indicated a proactive and positive understanding of the possibilities being opened by the transformational processes to be developed.

During the first round of dialogues with different actors held during 2020, two main objectives were pursued: assess mitigation actions included in the National, Sectorial and the different Climate Change Action Plans, as well as in the 3rd National Communication; and identify barriers that prevent or difficult these actions from being fully implemented. Moreover, in some cases, new measures that could be considered in future NDCs or in the LTS were also discussed.

Regarding this last issue, the following inputs by stakeholders referred in particular to the energy transition, as an example of outcomes of those dialogues can be highlighted:

- long-term funding (currently largely absent) is crucial to enable expansion of installed capacity of renewable energy projects
- The main challenge is how to economically stimulate necessary projects to achieve Argentina's commitments
- in a 10-year term, the switch to efficient appliances will be achieved organically, based on the technological availability and, thus, the acquisition cost. In lighting, the replacement will depend on available technologies.

¹⁴ <https://www.casarosada.gob.ar/informacion/discursos/47699-discurso-del-presidente-de-la-nacion-alberto-fernandez-en-la-cumbre-de-lideres-sobre-el-clima>

- Biofuels might not be able to compete pricewise in the medium to long-term, unless efficiency gains are achieved and higher carbon taxes are set for fossil fuels, including natural gas, currently excluded by law.
- The required quality of transmission and distribution networks, including transformation stations is critical for the adoption and quality of both electric light vehicles, buses and railway services. Perceived or real lack of reliability attempts against market penetration of these alternatives. In consequence, a large-scale electrification of the transport sector could take from 20 to 30 years, according to interviewees

IV. Key inputs

1. Referred to the international climate regime and the global climate arena

- ▷ The rationale for an ambitious, robust and comprehensive LTS at the national level is at least partially based in the recognition of the immense risks of climate change, an understanding that we inexorable changes in the next decades which could disrupt the environment so deeply that prior gains of development would be lost or partially reversed in developing countries, and current geopolitical conflict could be exacerbated. Addressing climate change is an imperative and only collective action and international cooperation may provide the path to facing this unique challenge.
- ▷ The Paris Agreement specifies that the long-term temperature goal should be achieved by means of reaching a balance between anthropogenic emissions of greenhouse gases by sources and removals by sinks, in the second half of this century.
- ▷ There is consensus, in the body of scientific research and from a political perspective, that net-zero CO₂ and large reductions in other GHGs are needed by 2050-2070 to meet the Paris Agreement goals of not exceeding the threshold of +1.5 - 2°C above preindustrial temperatures.
- ▷ The Special Report on Global Warming of 1.5 C (SR1.5) elaborated by the Intergovernmental Panel on Climate Change (IPCC) demonstrates that achieving greenhouse gas (GHG) emission reductions that can limit warming to 1.5 C requires "rapid and far-reaching transitions in energy, land and ecosystems, industry and urban and infrastructure systems."
- ▷ This encompassing effort should be based on international cooperation and collective action, a challenging demand in an international geopolitical scenario in which conflict seems to prevail around the decisions related to an array of significant international issues.
- ▷ In any case, accelerated and deep reductions in greenhouse gas emission are needed to avoid dangerous climate change. This will require low-carbon systemic socio-technical transitions across, inter alia, energy, transport, infrastructure and buildings, cities and its environs, industry, forestry and agricultural systems.
- ▷ It is increasingly clear and there is an ever-increasing understanding of the multidimensionality that the deep decarbonization challenge implies and of the need for an overarching vision of the future to guide demanding low-carbon transitions. The LTS plays a core role in framing those transitions

- ▷ Further, there is a growing agreement in the body of literature and research that most scenarios to meet the Paris Agreement rely on negative emissions technologies. Notwithstanding that, higher near-term emission reductions should decrease the need for a high scale of deployment for those technology options, reinforcing the rationale for a global imperative for urgent, rapid and deep decarbonization, in order to minimize future reliance on CDR options and their potential associated risks.

2. Argentina: an overview

- ▷ While Argentina's first revised NDC encompassed measures that covered all the major sources and were oriented towards accomplishing incremental emissions reductions, it was seen by external observers as unambitious. Adopting a deep decarbonization pathway would require deepening efforts in key sectors by launching transitions primarily but not only in the energy, transport and AFOLU sectors, providing the support for supply side radical transformations. On the other hand, an innovative approach to demand side measures, a relevant issue given Argentina's dual consumption patterns, should complement the traditional supply side approach, which was the almost single focus of previous analysis.
- ▷ However, this proposed demand side analysis requires in depth examination to determine the changes and eventually the disturbances in inter-industrial linkages resulting from transformations in key national consumptions patterns, from those resulting from efficiency gains (i.e. energy efficiency) to those related to shifting or replacement of products in key value chains and services (i.e changes in transport modes, introduction of new products, changes in urban development patterns). International demand would play a relevant role in terms of impacts on a few but crucial value chains in the national production structure. Potential modifications of resource demand and use would also have to be surveyed.
- ▷ The second NDC has been made available only recently and an assessment of the new level of ambition requires a careful consideration of the proposed target and of the envisaged means of reaching that target.
- ▷ The low emissions long-term climate strategy implies a daunting challenge in terms of investment needs, socio-economic impacts, production structure configuration, impingement of vested interests, income distribution patterns and equity considerations. Conversely, the realization of that strategy has a powerful implicit growth and modernization impact that should counterbalance adverse, likely temporary, effects. Public interventions are essential to ensure that adverse effects are minimized and basic principles that should govern the radical transformations are upheld. Societal participation is also essential to ensure not only an adequate

understanding of the rationale for the transitions under way but also the involvement of private agents and civil society in the collective efforts to be displayed.

- ▷ Some of the envisaged mitigation options (being only considered at this point in time) such as the development of a sustainable hydrogen economy or the possibilities in Argentina associated with negative emissions technologies might provide benefits and contribute to a new model of economic development and redress the prior phase of economic growth substantially based in exporting primary production commodities with the many drawbacks this model of development entails.

3. Energy and transport

This section is structured in two subsections: 1) general inputs for Energy and Transport; and 2) specific sub-sectoral inputs

1. General inputs for Energy and Transport

- ▷ The energy sector has four major elements to organize its long-term transition and achieve the net zero carbon goal by 2050:
 - Hydro energy can still provide additional inputs to reach decarbonization objectives, in particular by developing a large number of small, mini and micro hydro projects but also in conjunction with those low impact large hydro projects available and still to be developed.
 - Nuclear energy, enhancing scientific and technological progress already made in this field and supporting and complementing the development of GHG free electric generation
 - Hydrogen can be produced through intermittent renewables such as solar and wind, of which Argentina has large resources potentially available. A green and blue hydrogen programme can play an important role in a transition to zero carbon emissions of greenhouse gases. Alternatively, it can be produced by using hydrocarbons as feedstock (brown hydrogen) and then sequestering the carbon geologically (blue hydrogen), through CCS. Even if green and blue hydrogen face significant cost gaps compared to brown hydrogen, Argentina has the resources and some of the capacities to deploy a research and technical application programme to develop this wedge in the medium to long-term, including exploring opportunities associated with the economy of hydrogen and considering policy instruments that stimulate the transition to a hydrogen economy, as early as possible.
 - Non-conventional hydrocarbons formation (basically known as Vaca Muerta and its vast gas reserves) to be used for electricity generation and thus

facilitate the transition to electrification of energy demand, in particular in the transport sector. National policies in this regard converge with subnational authorities will to preserve sources of fiscal resources. With a low carbon budget this resource can be operationalized in conjunction with carbon capture and storage.

- ▷ These technological wedges can provide a strong support for transformation, increasing opportunities for technical change, employment and increasing levels of activity.
- ▷ It is clear that Argentina is a technology recipient country, therefore achieving the required transformation to meet its commitments will depend on the one hand of intensification of global technological development and the conditions associated with making those new or improved technologies available in order to reach the local user under relatively favorable economic conditions.
- ▷ Different modelling exercises, conducted by different research centers and by the government, in conjunction with a participatory effort to develop a 2050 vision for the energy sector provided insights on the possibilities and constraints for a long-term energy transition.
- ▷ There is still a need to reinforce consistency between short-term intermediate targets and 2050 PA goals while raising ambition, on the basis of the endowment of resources -natural and technical- the country has.
- ▷ However, a number of circumstances, in both the energy and transport sectors, may have an impact in deep decarbonization strategies for 2050, such as:
 - Fiscal dependence on revenues from fossil fuels both at the national and sub-national levels.
 - The productive and fiscal opportunity costs for Argentina of giving up fossil fuels are relatively high at the different jurisdictional levels making the energy transition in Argentina a federal issue, which requires sustained efforts towards building stable coalitions across provinces, parties, trade unions and civil society.
 - Strong incentives (subsidies) for fossil fuels in general and for unconventional gas extraction from Vaca Muerta basin in particular (considering high expectations given its energy exports potential), increase technological and high-carbon infrastructure lock-in risks.
 - Finally, oil and gas companies operate since the early 20th Century in Argentina, therefore, main infrastructure investments have been recovered.
- ▷ Lack of investment for implementing mitigation measures described in the National Sectoral and Climate Change Plans can create risks to the achievement of the NDC's emission reduction target. The capital requirement for resilient and/or low-carbon

major infrastructure and also for low investments aligned with a decarbonized economy, is in many cases high compared to a BAU investment.

- ▷ Lack of technical information or even inadequate public perception can lead to a strong resistance to change. This situation can be amplified by existing sub-sectoral lobbies (private and public, including within provinces and unions) conditioning the design and development of long-term strategies and increasing the difficulty for long term development of new technologies.

2. Specific sub-sectoral inputs

- ▷ At the sub-sectoral level, according to our deep decarbonization pathway analysis (FTDT, 2018), there are at least three major areas in which sustained and robust efforts and significant investments are needed to achieve net zero emissions in 2050:
 - Electricity production
 - Emission-free electricity generation should reach 95% by 2050.
 - Need for substantial grid infrastructure and transmission investments as well as grid management upgrades.
 - Continues government support for the uptake of large-scale renewables
 - Electrification of the largest part of final energy demand is necessary in adopting deep decarbonization pathways.
 - Transport
 - The radical transformation of the transport sector, which is responsible for 30% of the final energy consumption in our country, will be essential to move towards a deeply decarbonized energy matrix.
 - This process implies major transformations of all kinds, starting with the planning of urban transport and cargo systems, with the aim of eliminating the use of vehicles with internal combustion engines, as well as replacing them with electric vehicles and a combination of new users' behaviors and shifts in transportation modes, including both passenger and cargo
 - The entire fleet of vehicles should be converted to electric power.
 - Large efficiency improvements should be additional to the efficient demand already considered.
 - Initiation of an ambitious modal shift towards public transport in urban areas and discourage use of private ICE vehicles (while simultaneously promoting private electric vehicle purchase and investing in charging infrastructure) [this point is covered to a large extent in the current text]

- Support for research and implementation of pilot projects for zero-emissions freight transport.
- Buildings
 - About 83% of the energy consumed in commercial and residential buildings comes from fossil fuels. This high percentage shows the importance of substituting fossil fuels in this sector, besides substantially improving consumption efficiency. It seems that these actions were strongly underestimated in previous mitigation action plans. The implementation of such actions is key to any decarbonization effort in the country, and to reach the goal of net zero emissions in 2050.
 - All residential consumption of natural gas in terms of energy services and all consumption of LPG should be transformed into electricity consumption.
 - Large efficiency improvements should be additional to the efficient demand already considered should be realized.
 - Support zero emissions heating alternatives to initiate switch away from gas-based heating
 - Introduce measures to reduce the upfront investment costs of thermal retrofits (e.g. lower interest rates)
 - Increase awareness about the (non-) economic benefits of increasing energy efficiency measures in the housing sector.
- ▷ The new scenarios will be unavoidable disruptive, and the incorporation of technological and economic considerations will be unavoidable. The need for in depth sectoral studies, such as those related to the electrification of transport, and to foster changes in residential, commercial and industrial consumption, as well as in government and public agencies buildings.

Considering the abovementioned barriers, brief initial recommendations are presented, which will be further analyzed and deepened throughout this Project:

- Strengthening capacities at technical and general levels: informed citizens can become key drivers for pushing forward higher standards to public and private sector regarding low-carbon products and services.
- Changes in incentive structure: subsidies should promote social equity and focus only on vulnerable population who experience energy poverty.
- Some of the energy-related mitigation measures included in different National Sectoral and Climate Change Plans, affected by two or less barriers,

- have the potential of realizing quick wins related to identifying instruments or actions to mitigate the effects of these barriers in the short term.
- By mindful planning, non-structural barriers can be tackled in the short term and offer precedents for making long-term adjustments to deal with longer-term structural barriers. Then, an orderly transition can be achieved.

4. AFOLU

This section succinctly lists the major insights gained in the preliminary phase of analysis undertaken during 2020 in the AFOLU sector. Key inputs include the following ones:

- ▷ Afforestation and reforestation actions should be adopted as a pillar of the planned mitigation strategy, as well as being considered preliminarily as large carbon removal potential activities.
- ▷ In line with the existing legal and regulatory framework, efforts to reduce deforestation and forest degradation should be continued and strengthened through additional support and investment in monitoring and assessment plans, reviewing the current structure of incentives and benefiting for existing installed capacities to expand surface to be included in large scale forestation programmes.
- ▷ Changes in livestock production practices, in particular those related to increasing soil carbon stocks can provide additional means to increasing ambition in the short to medium term. Other innovative technologies to reduce emissions can be added in the medium to long-term.
- ▷ Similarly, changes in agricultural practices can contribute to incremental emission reductions.
- ▷ A 27% increase in the agricultural cultivated area was expected for the 2010-2020 period compared to 2010-2011, as stated in the 2020 Agroindustrial Strategic Plan. This expansion is not entirely compatible with Argentina's NDC objectives of curbing deforestation processes driven by agricultural frontier expansion and global drivers.
- ▷ The need for, and the urgency of, a transition of our food system to face the triple challenges of conserving biodiversity, improving adaptation to climate change while reducing GHG emissions, and improving diets, is no longer discussed and the analysis is now focused on the most appropriate means to achieve the more ambitious intended objectives.
- ▷ The development of a legal framework for the protection of wetlands and peatlands, encompassing both the national and provincial competencies, and a strong monitoring and protection programme to be expanded, established or recreated, as

applicable, shall ensure that national mitigation efforts and intended targets are not largely reversed through actions, direct interventions or additional impacts on the large wetland areas of Argentina.

5. Finance

- ▷ Meeting Argentina's vast financial and investment needs to facilitate the long-term transitions in key sectors requires access to public international finance, as well as mobilizing private domestic resources.
- ▷ While international and national public finance should be able to leverage financial flows to facilitate climate action, it is necessary to recognize that national public finance is currently constrained because of the obligation to address external and internal debt services. Consequently, fiscal space to fund climate action is relatively limited in the short-term. In addition, recovery plans to address the impacts of response measures to the pandemics demand additional finance that was not previously contemplated nor budgeted.
- ▷ Those large investment needs required to reach Argentina's deep decarbonization objectives will demand more substantive financial resources, to be access through international collaboration.
- ▷ Notwithstanding that, resilient and low-carbon investments, which require careful assessment and preparation, are frequently overlooked as urgent social demands need to be addressed firstly, when considering in particular infrastructure investment options. More recently, this situation was aggravated due to the need to face socioeconomic effects of COVID-19.
- ▷ Private sector engagement to finance and implement climate action is key to address the climate challenge as public funding alone will not suffice. Argentina has unfolded some initiatives to engage the private sector, notably in the energy sector, however the degree to which public entities engage with the private sector to foster climate action and related investments is still relatively low.
- ▷ Argentina has in the past accessed international climate finance from a variety of climate finance sources supporting the implementation of individual projects. A more strategic approach would be beneficial to access larger volumes of climate finance needed to support the country's transition to a low carbon economy.
- ▷ The strategy should contemplate the use of domestic resources but also international financial flows, public and private, that should play an important role in providing finance for climate investments. These efforts should be envisaged on the basis of international cooperation and trust.
- ▷ The Government of Argentina has further established new institutions and defined new roles to existing ones, that carry the mandate to align climate finance with the

country's development priorities. Newly formed institutions could potentially contribute to increasing the alignment of climate finance and (sectoral) development priorities in the future.

- ▷ With the passing of the climate change law and the establishment of a coordinating entity, Argentina has created favorable conditions to mobilize climate finance.
- ▷ Current initiatives (such as the creation of the Sustainable Finance Working Group and the International Finance Unit; the undergoing initiative to ensure the identification and labeling in the National Budget, of activities and programs related to adaptation and mitigation; development of a Country Programme with the objective of coordinating with the Green Climate Fund and other funds oriented to climate finance; and annual programming of other multilateral and inclusion of financing for climate change projects in bilateral credit agencies) are clear signals that tend to demonstrate the country's purpose and urge to strengthen its capacities and strategy to access and continuously secure climate finance.
- ▷ Accurate monitoring of climate finance flows will allow a country to take more informed decisions about planning, prioritisation, and allocation of resources for climate change, and to measure and evaluate progress

6. Process related

- ▷ Due emphasis has been placed on the need to ensure the coalescence of a political decision to allow launching the process of building up the LTS; notwithstanding that, it is equally relevant to keep that process constantly ongoing with the purpose of ensuring its significance along decades, towards the accomplishment of its core objectives.
- ▷ Harmonized revision cycles of LTSs and NDCs can improve the alignment of a country's long-term vision and medium-term targets and make sure that strategies are grounded in the latest science.
- ▷ Aligning a country's NDC to its long-term strategies and targets, from a climate mitigation perspective, means that the mitigation pathway envisaged by the NDC is consistent with the decarbonization pathway identified in any national long-term strategy or with the pathways resulting from carbon neutrality.
- ▷ Revision cycles will also support the evolving cost landscape of technologies and other changing circumstances and thus influence considerations and decision-making.

- ▷ According to the guidance provided by the New Climate Institute (Hans, 2020)¹⁵, the Paris Agreement and the Katowice Rulebook do not clearly specify whether Parties should update their LTSs after communicating them to the UNFCCC by 2020. A one-time submission in 2020 without further revision, however, would dismiss the idea to make an LTS an ongoing visioning exercise of continuing pertinency. The five-year revision cycles for Parties to submit their NDCs to the UNFCCC provide an opportunity to improve the alignment of countries' LTSs with their medium-term targets (NDCs). This way, policy makers can ensure that a country's long-term vision informs the NDC target setting for the medium-term and incorporating the latest developments in science, policy and technology.

¹⁵ Making Long-Term Low GHG Emissions Development Strategies a Reality A guide to policy makers on how to develop an LTS for submission in 2020 and future revision cycles

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