

## Executive Summary

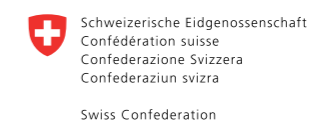
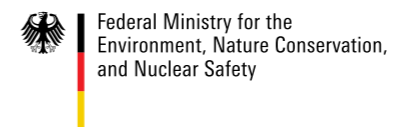
# ► Inventory of policies related to the green economy in Argentina



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PAGE Argentina gratefully acknowledges the support of its donors and financial partners





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### ► Inventory of green economy policies, programmes and projects in Argentina

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#### 1. About PAGE and this report

The Partnership for Action on Green Economy (PAGE) is an initiative of the United Nations System, which responds to the final document of the Rio+20 Conference on Sustainable Development, titled “The Future We Want”. The implementation of that initiative seeks to support the national efforts of all countries in transitioning towards green economies. A “green economy” is one that improves human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

PAGE supports nations in reformulating policies and practices related to sustainability in order to move forward in the 2030 Agenda and foster economic development, create income and jobs, reduce poverty and inequality and strengthen the ecological foundations of national economies. This support is being provided in conjunction with the national governments of member countries. Argentina has formed a part of this partnership since 2018, and the “Inventory of policies related to the green economy in Argentina” presented in this report forms a part of PAGE’s working plan in the country.

Within that framework, this work consists in a survey of the country’s current public initiatives, which, due to the thematic areas they involve and their objectives, could be considered to be within the limits of what we understand as the “green economy”. In accordance with this initial mapping, this work moves forward by making recommendations that tend to reinforce or reformulate projects and that innovate on initiatives that can contribute to the transition to a socially inclusive, low-carbon economy that uses resources more efficiently.

## ► The green economy within the framework of COVID-19

The global crisis unleashed by the COVID-19 pandemic has forced nations to acknowledge the need to review patterns of production and consumption on a global scale, whose environmental and social impacts have already been questioned broadly. The most visible side of these impacts are climate change and ecological crisis, on the one hand, and inequality in access to goods and services, on the other.

The economic crisis caused by COVID-19 containment measures, as well as the reactivation initiatives designed by the various governments, have arisen as a way to comprehensively rethinking our relationship with the environment in a more comprehensive manner. In this regard, numerous governments have acknowledged the need for economic stimulus packages designed to help people and enterprises survive the approaching recession. Within this framework, initiatives oriented at the green economy have appeared at the highest public and private levels. Clearly, the particular characteristics of each country and region will result in highly different post-pandemic baseline scenarios, not only for reactivating the economy but also for initiating or continuing with the transition towards an environmentally sustainable and socially just economy.

With regard to the case of Argentina, the country already had serious economic difficulties at the time when the pandemic hit. This has led it to face a particular situation in which the macroeconomic problems weighting it down have become even more acute. In this regard, the dual objective of reactivating the economy and assisting the population in the short term, on the one hand, and now designing a path for sustainable development in the medium and long term, on the other, constitutes a major challenge and a great opportunity at a local level.

Initial estimates indicate that the pandemic will deepen the recession already affecting the Argentine economy. It is estimated that the drop in GDP in 2020, estimated at 1.5 per cent in January of this year, will increase to 6.5 per cent (ECLAC). The most significant impacts include decreases in both international trade – which dropped 3 per cent in the first quarter alone and is estimated to reach 27 per cent by July 2020 – and in private consumption, particularly affecting Micro-, Small and Medium-sized Enterprises (MSMEs). Furthermore, the estimates of an economic depression and the lack of financing will slow down investments in many sectors, especially those not linked to the pandemic.

The shutdown of economic activity caused by social distancing measures is affecting all activities not deemed to be priority activities within the context of the health emergency. While the loosening of social distancing measures will allow economic reactivation, the subsequent recovery involves major challenges for sectors that are the most sensitive to the economic cycle, given the expected overall supply and demand crisis<sup>1</sup>.

<sup>1</sup> According to a survey conducted by the consulting firm, Bain & Company, 85 per cent of consumers expect a negative financial impact due to the crisis.

Within this framework, estimates show that employment will shrink by around 6 per cent in 2020. It is also estimated that the sectors affected the most, in terms of both GDP and employment, will be the construction, tourism, retail, and wholesale trade sectors. In the manufacturing industry, on the other hand, the expected effects are very different and depend on the branch of activity. Moderate effects are expected in the food and beverage and the chemical sectors. The highest impacts are expected in other categories, especially in the automotive sector, whose activities are affected due to both the domestic and global effects of the pandemic.

The labour sectors affected the most include self-employed workers (encompassing own-account workers, *monotributista* workers – small contributors under the simplified tax scheme – and platform workers), as well as informal workers and domestic workers. The threat of poverty for these latter workers has intensified considerably, given that they hold the least favoured positions in the country's income distribution.

Despite the difficulties created by the current context, activity in agriculture and in the food chain has not stopped, and it is estimated that a crop area similar to the previous season will be planted (Lema, 2020). According to the FAO (2020), disturbances have been minimal up to now, given that the supply of food has been adequate and markets have remained stable. A few logistics difficulties have been noted, such as bottlenecks for moving some foods between different points, but the majority of these had been resolved by mid-April 2020. However, it is likely that the markets will receive less food and at a higher cost (fruits and vegetables).

The reactivation effort currently being designed by the Government for coming out of the crisis caused by COVID-19 is key in the transition towards a more sustainable economy. This is due to the fact that, on the one hand, the State must immediately and in the short term assist the sectors that have been hit the hardest by the crisis – especially those that are the most vulnerable. On the other hand and at the same time, the State must also consider the fact that any measures taken today will inevitably have an impact in the medium and long term, within an overall context in which it is urgently necessary to reduce emissions of greenhouse gases (GHGs), mend key ecosystems for human life and improve the distribution of goods and services.

## ► Green Jobs and a Just Transition

The transition towards a green economy is important within this context because it has the potential to create new positions of decent work and drive social equity. Green jobs can be created in all countries, regardless of their level of economic development, in both urban and rural areas and in all sectors, all industrial activities and all types of enterprises.

Green jobs are those that, meeting the requirements of decent work, contribute to preserving and restoring the environment. They can be in traditional sectors, such as manufacturing or construction, or in new, emerging sectors, such as renewable energies and energy efficiency (Jarvis, Varma and Ram, 2011). “Decent work” is understood as opportunities for work that is productive and delivers a fair income; security in the workplace and social protection for families; better prospects for personal development and social integration; freedom for people to express their concerns, organize and participate in the decisions that affect their lives; and equality of opportunity and treatment for all women and men (ILO).

The transition towards a low-carbon economy that uses resources efficiently involves a transformation in all economic and social sectors, both public and private. Regarding labour issues, this transformation involves an increase in the demand for manual labour in a wide range of sectors and activities; it means that existing jobs in sectors with high levels of carbon emissions will be replaced by new jobs in sectors with fewer emissions; it involves the elimination of job positions that will not be directly replaced; and it includes the adaptation of existing jobs to new requirements.

Therefore, even though this process drives new sources of job creation, it also represents a challenge for governments and society, given that many traditional economic sectors must undergo an in-depth transformation, or they will tend to disappear. The most obvious example is that of the fossil fuels sector.

Within this context, strengthening current programmes and projects, as well as establishing new action guidelines under a sustainable development policy, can help reactivate sectors such as the construction sector and various branches of the manufacturing and service industries. It can also help drive regional economies through bioenergies, food production and bio-based materials; it can help strengthen sectors such as the forest production sector (which can add value throughout the forest-industrial chain); and it can help incorporate sectors that are open to environmental services and activities, such as recycling. To make this all happen, there must be public investment, a green tax policy, budget reorientation and the implementation of specific policies or loans in the private sector oriented at reactivation, among many other needs.

Furthermore, the State must also establish a set of social protection policies; it must deal with reorienting vocational skills to attenuate the negative effects in sectors that must be transformed; and it must restore the imbalances in vocational skills that could be caused by technological and production changeover. The need for new skills can be anticipated by making adjustments to existing education and training systems and by creating new training opportunities. This could all represent an important springboard to providing access to work and income opportunities for young people, women and other disadvantaged groups, which will contribute to creating a green economy.

Furthermore, it has been shown globally that women have less access than men to resources that could improve their ability to adapt to a changing environment. They have less access to land, to credit, to decision-making bodies, to technology and to training services, among other things. This has been verified above all for the large majority of women who work in the informal sector and at small enterprises that lack capital and access to credit and information. The promotion of green employment can lead to greater gender equality, particularly within small-scale agriculture and waste management (ILO).

## 2. Structure of this work and conceptual framework

In order to highlight and classify the current policies, programmes and projects in Argentina within the framework of the green economy and in order to provide a better context and analysis thereof, such policies, programmes and projects have been approached through three, internationally recognized conceptual frameworks that give credence to the development of a green economy. These frameworks are that of the bioeconomy (in general and related to native forests and forest production), the circular economy (clean production and waste management) and the energy transition (renewable sources, energy efficiency and sustainable mobility).

The bioeconomy, the circular economy and the energy transition are also linked to the main dimensions of the 2030 Agenda and contribute to complying with the climate goals established by the Paris Agreement.



- ▶ The bioeconomy “is the production, utilization and conservation of biological resources, including related knowledge, science, technology, and innovation, to provide information, products, processes and services in all economic sectors aiming toward a sustainable economy” (Global Bioeconomy Summit, 2018).



- ▶ The objective of the circular economy is to succeed in decoupling the consumption of goods and services from the extraction of virgin resources and therefore ensure closed loops in order to prevent the eventual deposit of consumed goods in landfills.



- ▶ Due to the global climate crisis, the global energy system must undergo in-depth transformation, which involves structural changes in the way in which energy is produced, transported, distributed and consumed. Energy efficiency and renewable energies are the main cornerstones of this process, which is already taking place in many countries.

Within this framework, the idea of energy democracy focuses on taking advantage of this potential of progressive social change by adopting a vision of energy systems that are more distributed and have a local base, therefore using a regionally appropriate combination of various renewable energy sources that satisfy 100 per cent of society’s energy needs.

### 3.1 The bioeconomy

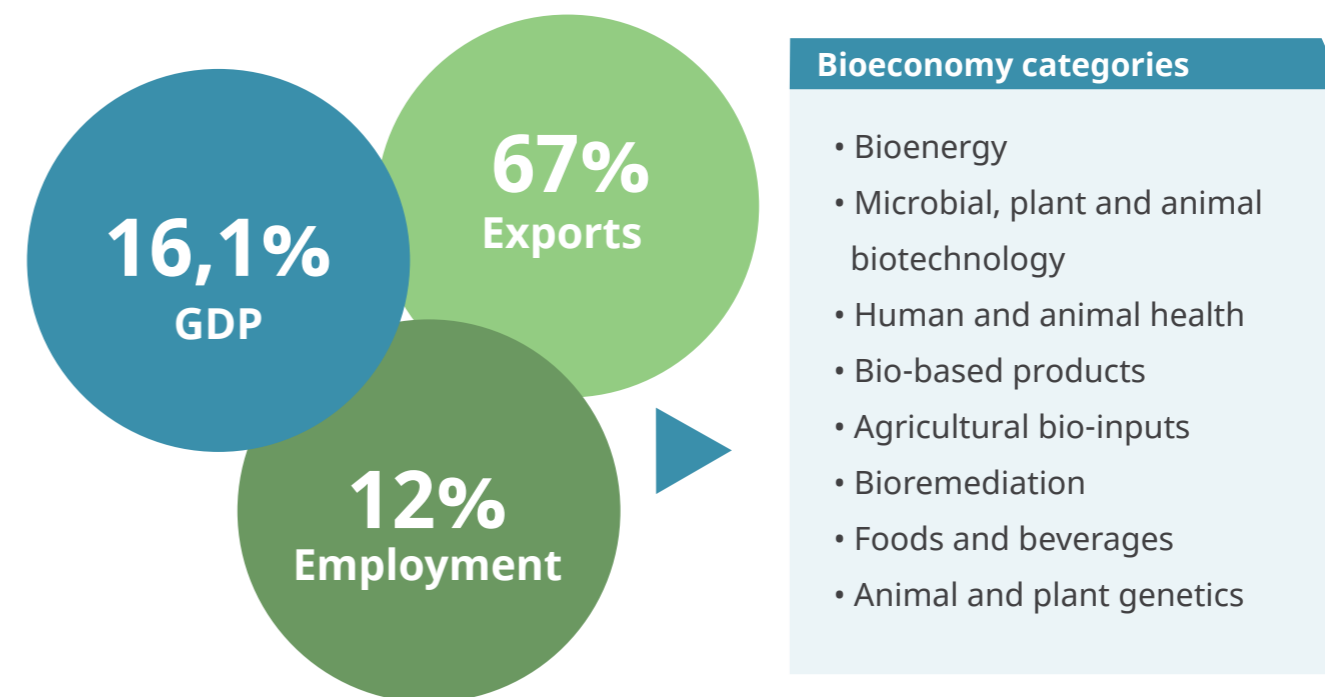
#### ► 3.1.a. The bioeconomy in Argentina

Argentina has an abundance of biomass, which offers a great opportunity to develop the bioeconomy. The forest surface area, the competitive chains of the agricultural and livestock sectors and the advanced scientific-technical skills in the country represent a broad range of opportunities for promoting more sustainable production patterns.

The bioeconomy promotes the industrialization of biomass, which in our country is diverse and is distributed throughout various regions: these characteristics give the bioeconomy added value for boosting regional economic and social development. The activities associated with the bioeconomy are not necessarily a synonym of sustainability. Development of the bioeconomy according to the purpose of sustainability and social inclusion must therefore be guaranteed by redesigning certain production policies and by strengthening the existing environmental policies.

The bioeconomy's share of the national GDP was estimated at 16.1 per cent in 2017, amounting to a contribution of nearly 86.7 billion dollars (Coremberg, 2019). This amount includes the agricultural sector, the industrial branch of biomass conversion and related industries, trade in bio-based products<sup>2</sup>, repairs of agricultural machinery and transportation. The health sector is left out of this estimate, which could add other significant points.

Biomass allows the generation of bioenergy and the production of foods and diverse types of bio-inputs and bio-based materials, as well as the services associated with bioeconomic activities. The most important opportunities are located in the centre of the pampean region, where the confluence of resources, production capacity and infrastructures is more evident and where there are considerable developments in the agro-industrial and biofuel chains. Nevertheless, the country's other regional economies also offer considerable resources and substantially developed institutions that, to varying degrees, have high-quality human, technological and production resources (Rojo, Ernst, Lengyel and Pizzicannella, 2019).



La The food industry covers a complex range of production and processing categories distributed throughout the national territory, composed of 31 agricultural chains (CAA). Argentina has had a historical role as a global food supplier, and it is in a position to strengthen its international competitiveness and its insertion in the global food value chain. However, in comparison with other countries with more dynamic food sectors, the country's participation in global markets continues to be led by agricultural commodities such as flour, oil and soybeans, which have relative aggregate value.

Because of the crisis caused by the COVID-19 pandemic, food production presents itself as a strategic sector for the country's economic development, but adapting and improving the processes related to product safety, health and traceability will be essential. The process of food sophistication and the rise of bio-based materials, bio-inputs and biofuels are fields in which the country has some developments, but they must be increased and more in depth. For example, the bio-inputs needed for food processing – such as enzymes – are scarcely developed locally, and the majority are imported (Anlló et al., 2016). Another major area for production and commercial development is that of agricultural bio-inputs, such as biofertilizers, biostimulants and biological agents for pest control, which can offer both environmental and economic benefits.

<sup>2</sup> Industrial products from renewable biological feedstocks are called "bio-based products".

The bioeconomy is a model that promotes sustainability, according to which an increase in productivity must take place in harmony with the environment. There is a preponderance of competitive agriculture in the country, as opposed to agroecological systems. Competitive agriculture, which currently demands high levels of plant protection inputs and is focused on the one-crop production of soybeans, must be reconverted towards more diversified and sustainable processes. Nevertheless, the country ranks second in the world in organic production, and it is advancing – slowly but steadily – in agroecological systems. The growing global demand by consumers for products coming from ecological agriculture is proof of the huge potential of these systems, not only for the international market but also for expanding the local supply.

On the other hand, the country has a significant pool of human and institutional resources that are contributing to various scientific developments associated with biotechnology. Argentina is ranked 16th in the world among countries with the highest number of biotechnology companies. There are approximately 200 companies, 70 per cent of which are SMEs. Of these companies, 63 per cent are engaged in human and animal health, 22 per cent in agriculture and 15 per cent in industrial biotechnology. The sector employs 4,400 workers directly (Ministry of Production Development, 2018).

The activities performed by these biotechnology companies include the following, among others: seed production, medicinal products for human use, assisted human reproduction, animal reproduction, biotechnological inputs applicable to plant and animal production (such as vaccines) and industrial activities.

Within the current context of the COVID-19 pandemic, health-related biotechnology is at the centre of the global stage, and it has highlighted the capacity of the Argentine scientific-technological sector in this area. The serological tests produced by the Leloir Institute and the CONICET (National Scientific and Technical Research Council) for detecting the presence of antibodies against the coronavirus and the rapid molecular diagnostic test (Neokit-COVID-19) are two examples of how local biotechnology has developed. In this regard, we could highlight the incipient development of public-private partnerships that, after several years of research, are ready to move into the marketing stage. Yet there still is no robust, established sector that enhances the synergies and the returns that could be generated by the Argentine scientific system from biotechnology that had a defined commercial use (Anlló et al., 2016).

### Policies, programmes and projects

Bioeconomy promotion policies	<ul style="list-style-type: none"> <li>• Bioeconomy promotion programme</li> <li>• “<i>Bioeconomía Argentina</i>” (“Argentine Bioeconomy”) programme</li> <li>• “<i>Pampa Azul</i>” project</li> </ul>
Policies for the promotion of bio-based materials and bio-inputs	<ul style="list-style-type: none"> <li>• “<i>Bioproducto Argentino</i>” (“Argentine Bio-based Product”) programme</li> <li>• “<i>Bioproducto Argentino</i>” (“Argentine Bio-based Product”) label</li> <li>• Action plan for the agricultural bio-inputs sector</li> <li>• Bio-based plastics project, INTA</li> </ul>
Policies for the promotion of biotechnologies	<ul style="list-style-type: none"> <li>• <i>Plan Nacional de Ciencia, Tecnología e Innovación Productiva</i> (National Science, Technology and Production Innovation Plan)</li> <li>• Coronavirus unit</li> <li>• Biotechnology, INTI</li> <li>• Argentine–Brazilian Biotechnology Centre (CABBIO)</li> <li>• Biotecsur</li> </ul>
Policies for the promotion of foods and beverages	<ul style="list-style-type: none"> <li>• “<i>Alimentos Argentinos</i>” (“Argentine Foods”) quality label</li> <li>• “<i>Sumar Valor</i>” (“Add Value”) programme</li> <li>• “<i>Tierra Viva</i>” (“Live Earth”) sustainable food production programme</li> </ul>
Policies for the promotion of agroecology and family agriculture	<ul style="list-style-type: none"> <li>• Research: <i>Red de Agroecología</i> del INTA (INTA Agroecology Network) (REDAE)</li> <li>• Promotion and training: <i>Red Nacional de Municipios y Comunidades que Fomentan la Agroecología</i> (National Network of Municipalities and Communities that Promote Agroecology) (RENAMA)</li> <li>• <i>Prohuerta</i> programme: INTA and the Ministry of Social Development of the Nation</li> <li>• <i>Centro de Investigación para la Agricultura Familiar</i> (Research and Development Center for Family Agriculture) (CIPAF)</li> <li>• <i>Registro Nacional de la Agricultura Familiar</i> (National Register of Family Agriculture) (ReNAF)</li> </ul>

Policies for the promotion of organic production	<ul style="list-style-type: none"> <li>• Overall strategy for organic production</li> </ul>
Policies of good practices, integrated systems and production diversification	<ul style="list-style-type: none"> <li>• <i>Plan Nacional de Suelos</i> (National Access to Land Programme)</li> <li>• Private undertakings that implement integrated or diversified systems</li> </ul>
Policies for promoting the fight against climate change	<ul style="list-style-type: none"> <li>• National agricultural and climate change action plan</li> </ul>

► 3.1.b. Biomass production: native forests and forest production

► Native forests

**53,6**  
million hectares  
of native forests

► In Argentina, due to the various geographic, topographic and climate conditions, there are a variety of native forests, located in seven forest regions: Missionary Forest, Yungas Forest, Gran Chaco Forest, Andean Patagonian Forest, Espinal forests, the Monte ecoregion and the Paraná River Delta and islands.

**1,37**  
million hectares  
of forest  
plantations

► Between 1990 and 2014, over 7 million hectares of native forests were lost. Even though the deforestation rate has been decreasing, it still remains significantly high. Deceleration began being observed in 2008, due mainly to enactment of the Law of Minimum Budgets of Environmental Protection for Native Forests (Law 26331) in 2007. Since 2014, the deforestation rate has remained stable at approximately 0.5 per cent annually (SAyDS, 2019). The main causes of deforestation have been the expansion of the agricultural frontier and the shift of livestock farming from the Humid Pampas towards the forest zone.

**3,7**  
million hectares  
available for forest  
expansion

Law 26331 sets forth that each jurisdiction must establish land use planning for native forests according to different conservation values, based on 10 environmental sustainability criteria. Category I (red) encompasses sectors that have a very high conservation value and must not be transformed. Category II (yellow) indicates forests that can be degraded, yet they have a high conservation value. Activities related to sustainable use, tourism, harvesting and scientific research are permitted in these zones. Category III (green) indicates sectors with a low conservation value, and they can be transformed, either partially or totally, within the criteria of the law.

Currently, the yellow category is sustaining the greatest loss, and the main cause is livestock farming. While there are areas affected by fires (mainly in the Dry Pampas region), livestock farming in Chaco Park represents the greatest threat, given that permits for sustainable use end up involving a change in land use.

Of the more than 53 million hectares that the provinces declared in their land use planning of native forests, nearly 10 per cent is subject to management or conservation plans. There are also a significant number of interventions that take place in native forests outside of the National Fund for the Enrichment and Conservation of Native Forests (Fondo Nacional para el Enriquecimiento y Conservación de Bosques Nativos – FNECBN) (ForestAr 2030, Forest-Industrial Competitiveness Board, 2019). Moreover, the illegal use of forests has been a historical practice in some parts of the country, and to a certain extent, it has been established as an informal economy with very little control.

Beyond the deforestation that has occurred, Argentina is notable for being the first country in the region to have a policy on land use planning for native forests.

► Forest Industry

The country has great potential for economically competitive forest industry, given that it has suitable land available for the activity, with a variety of soils, species and climates. The natural conditions are so optimal that they allow a plantation growth rate (from 9 to 15 years, on average) that surpasses the rate of countries with a tradition in forestry (ForestAr 2030, Forest-Industrial Competitiveness Board, 2019).

Approximately 95 per cent of the timber used in the forest industry comes from cultivated crops, (SAyDS, 2019) and over 40 per cent of the planted surface area is certified by sustainability labels (FSC, PEFC). The promotion of forest production policies is governed by Law 25080 (1998), on investments for planted forests, which was amended by Law 27487 (2018) and extended to 2029. This scheme establishes non-refundable contributions and tax breaks, as well as the promotion of new forest-industrial projects through tax benefits and amounts for sustainable management.



The promotion scheme has historically faced management and financing problems. The extension of the new law sought to settle previous problems by not only improving the management processes of the scheme but also by using “Green Insurance” to finance promotion<sup>3</sup> of the activity (ForestAr 2030, Forest-Industrial Competitiveness Board, 2019). However, the agreement that governs “Green Insurance” was not applied during 2020.

**Forest-industrial chain**



By 2018, the forest-industrial chain represented 1.2 per cent of the gross aggregate value, 1.4 per cent of registered employment and 1 per cent of exports. The country has a structural trade deficit: a negative balance of 669 million dollars was recorded in 2018 (Under-Secretariat of Microeconomic Programming, 2019). The 2030 forest and forest-industrial strategic plan (2019) highlights that in the last 15 years the South American region (Chile, Brazil and Uruguay) has become the second-leading region in cellulose production for the global market, with an investment of approximately \$25 billion, from which Argentina reaped practically no benefit. The cellulose sector has not grown in Argentina for 30 years, despite the fact that, unlike its neighbouring countries, it has 3.7 million hectares available for forest expansion that do not compete with native forests or crops.

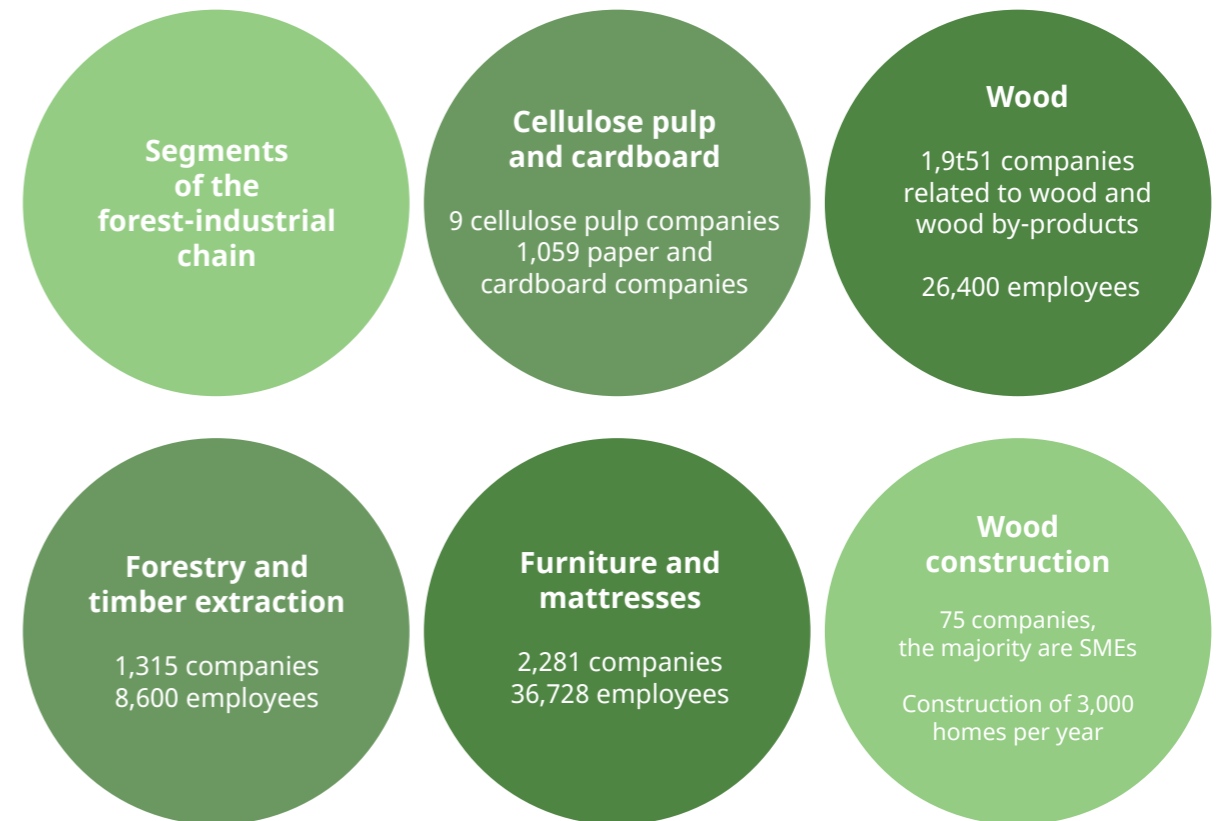
The forest-industrial sector for developing the Argentinian bioeconomy is substantial: it can produce renewable resources, the carbon intensity is low and there is great potential for generating employment throughout the entire production chain, in both rural and urban areas. In turn, the growing global demand, driven by the need to replace carbon-intensive products (such as cement and fossil fuels) or non-renewable products (such as plastic and aluminium), is opening up a wide range of opportunities for the entire value chain of the Argentine forest industry.

In the paper segment, while some papers are showing a downward trend (printing paper and newspaper), others, such as packaging paper (kraft paper), are on the rise due to the increase in online trade, accelerated even more by the pandemic

<sup>3</sup> “Green Insurance” is a commitment that was signed in 2018 between a group of 11 insurance companies and the National Government – through the Insurance Supervisory Authority of the Nation and the Secretariats of Agro-industry and of the Environment and Sustainable Development – to allocate 1 per cent of every digital policy to planting trees in Argentina, thereby reducing the carbon footprint of cars, motorcycles and trucks.

(ForestAr 2030, Forest-Industrial Competitiveness Board, 2019). This segment presents a great investment opportunity, given that kraft paper is not produced in the country and is imported entirely. Its raw material is long fibre (pine), in which local production has major competitive advantages.

Wood also has great growth potential in construction because of the need to develop new construction systems and due to the inclusion of new wood-based technologies for building construction (cross-laminated timber and glued laminated timber technologies, among others). These construction systems are more energy efficient and are replacing non-renewable products such as cement, iron and aluminium, which have high levels of GHG emissions. The global production of wood products recorded its greatest increase of the last 70 years: the commercial value in 2018 increased by 11 per cent compared to 2017 (FAO, 2019).



## Policies, programmes and projects

<p>Policies for the promotion of native forests</p>	<ul style="list-style-type: none"> <li>• <i>Programa Nacional de Protección de Bosques Nativos</i> (National Native Forests Protection Programme) (Law 26331)</li> <li>• National monitoring system of native forests</li> <li>• <i>Plan Nacional de Restauración de los Bosques Nativos</i> (National Native Forests Restoration Plan) (PNRBN)</li> <li>• National forests and climate change action plan</li> <li>• National plan for the management of forests with integrated livestock</li> <li>• Native forests and communities project</li> <li>• Sustainable forestry management at the river basin level</li> <li>• United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD Programme). Developed until 2020.</li> <li>• Fire management</li> </ul>
<p>Policies for the promotion of forest production</p>	<ul style="list-style-type: none"> <li>• Plantation promotion (Law 25080)</li> <li>• <i>Plan estratégico forestal y forestoindustrial Argentina 2030</i> (Argentina 2030 Forest and Forest-Industrial Strategic Plan)</li> <li>• <i>Programa de Sustentabilidad y Competitividad Forestal</i> (Forestry Sustainability and Competitiveness Programme) (SyCF)</li> <li>• Forestry Certification Policy</li> <li>• <i>Programa de Verificación de la Legalidad de la Madera</i> (Timber Legality Verification Programme) (PVLML)</li> <li>• Home construction with wood</li> <li>• <i>Programa de certificación sectorial de trabajadores forestales AFOA-UATRE</i> (AFOA-UATRE forestry workers sector certification programme)</li> <li>• <i>INTI Madera y Muebles</i> (Wood and Furniture INTI)</li> <li>• <i>Programa de Celulosa y Papel</i> (Cellulose and Paper Programme) (PROCyP)</li> </ul>

### ► 3.2. The circular economy in industry

Unlike other countries and regions, Argentina has yet to develop a national policy that is oriented according to the circular economy paradigm. The country has made progress on programmes for cleaner production in industrial processes, although the initiatives are partial and voluntary.

The legislation in force on waste management has an outdated structure regarding the current reality of production, commerce and consumption. Current laws must be amended, and new, specific regulations need to be set up in order to handle relevant aspects within the framework of this new paradigm. For now, there is no specific legislation on clean production in industry, or any regulatory framework (general standards) or specific regulations by branches or sectors. Regarding liquid effluents, the regulations of each jurisdiction apply; for gaseous effluents, an adherence norm of 1973 is followed; and for polluted sites, guide level tables corresponding to hazardous waste regulations are used.

The industrial sector is dominated by the manufacturing industry, according to the gross added value, followed by commerce and construction. The manufacturing industry is characterized by a heterogeneous composition led by food and beverage production (25 per cent of the total). Micro, small- and medium-sized enterprises are those that contribute the most to this economic activity (97 per cent). It generates 1.2 million jobs, and of those, 19 per cent correspond to what is known as “green employment”, centred mainly in those sectors or production stages whose processes are environmentally certified (OIT, 2019).

Another characteristic that indicates the heterogeneity of this industry is its diversity regarding production – in terms of innovation (technological intensity gaps), in terms of the internal and external levels of productivity (productivity gaps) and in terms of the labour conditions offered according to the branch of industry (Infante and Gerstenfeld, 2013).

The recycling sector is incipient in the country, and overall there are 3,174 registered employees (Ministry of Labour of the Nation, 2018). Yet it is estimated that there are between 100,000 and 150,000 formal and informal waste pickers of solid urban waste in the country, of whom only 15,000 are organized into at least 160 cooperatives. The recycling sector continues to be highly vulnerable, and it is the instance of the industrial chain with the highest predominance of informality, labour precariousness, low income, hazardous jobs and even child labour (Ferraro, Rojo Brizuela and Paz, 2020).

The heterogeneity that characterizes the sector leads to dissimilar environmental performance between the various branches of the manufacturing industry. According to the Secretariat of the Environment and Sustainable Development (SAyDS) (2019a), one fourth of the environmental impact potential of the manufacturing industry is linked to the food and beverage sector. As it can be seen below, activities that involve greater processing complexity represent 55 per cent of the environmental impacts generated nationally by the industrial sector. These activities include oil and gas processing; the chemicals and plastics industry; metal manufacturing, particularly steel and aluminium; and the automotive industry, including spare parts.

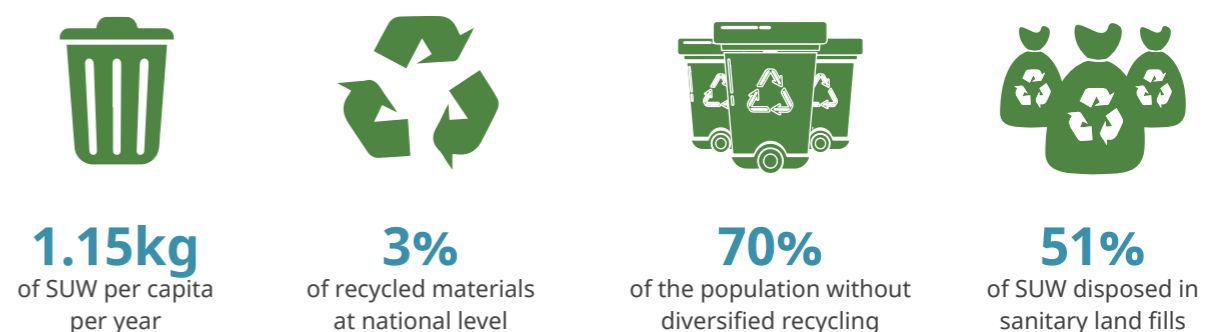
In addition to generating a negative trade balance, the low post-consumption recycling rate of manufacturing firms has a dual impact on the sector's environmental performance. First of all, it keeps the demand for virgin raw materials and energy at high levels; and second, it generates a growing environmental impact due to the constant increase in waste generation. Recycling is concentrated mainly in plastics, paper and cardboard, and it is calculated that the percentage reaches 3 per cent nationally, according to figures published by the SAyDS (2013).

Of the total amount of municipal solid waste generated in the country, 51.25 per cent is taken to sanitary landfills, with the remainder going to dumpsites. For 70 per cent of the country's population, there is no selective collection (door to door); 82 per cent of municipalities have yet to develop recycling programmes for major waste generators; and only 49 per cent of municipalities have treatment plants for this fraction of waste (CEMPRE, 2018).

With regard to organic waste composting, there is no data available, either official or unofficial. The majority of projects or initiatives are oriented at the composting of municipal pruning waste and at small-scale private and social undertakings. For special waste or universal hazardous waste, such as WEEE, there are municipal or provincial programmes at specific points in the country, and some jurisdictions even have specific legislation.

The demand for virgin raw materials by the petrochemical-plastics chain, and the inability to meet that demand through internal production, results in a negative trade deficit, with negative balances in both manufactured goods and raw materials, a situation that has deepened.

In the case of paper, the country continues to be a net importer, especially of kraft liner (used in the packaging market) and of high grammage kraft for laminates of tetra pack containers. Moreover, due to the high percentage of recycled fibres that are included in paper and cardboard production (approximately 55 per cent), the trade balance in paper and cardboard waste is also negative for the sector.



In the case of aluminium, while the national production of primary aluminium has had sustained growth, the production based on local recycling barely reaches 15 per cent of the country's total, which is relatively low compared to international figures (40 per cent in the European Union and 83 per cent in China). It should be pointed out that Argentina acquires its raw materials for the industry from Brazil and China.

Finally, regarding waste electrical and electronic equipment (WEEE), between only 3 and 4 per cent is recovered nationally from the total amount generated annually. Some of these materials are exported by recycling enterprises, and others are diverted to other branches of industry. This is because circularity within the electronics industry in the country is hardly viable, given that the majority of the sector is oriented at assembling imported parts.

### Políticas, programas y proyectos

Cleaner production	<ul style="list-style-type: none"> <li>• <i>Programa de Reconversión Industrial</i> (Industrial Reconversion Programme) (PRI)</li> <li>• <i>Programa nacional de emprendedores para el desarrollo sustentable</i> (National Entrepreneur Program for Sustainable Development) (PROESUS). Developed until 2020.</li> <li>• <i>Programa Casa Común para Gobiernos Locales</i> (Common House Programme for Local Governments) [Líneas Economía Circular y Producción Agroecológica (Circular Economy and Agroecological Production Lines)]</li> </ul>
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Waste  
management

- *Plan nacional de economía circular de residuos* (National Circular Economy Plan for Waste)
- *Programa de gestión integral de Residuos Sólidos Urbanos* (Integrated Management Programme of Solid Urban Waste [SUW])
- Technical group on the circular economy
- *Plan nacional de reducción de pérdidas y desperdicios de alimentos* National Plan for the Reduction of Food Loss and Waste
- *Programa Casa Común para Gobiernos Locales* (Common House Programme for Local Governments) [Líneas Economía Circular y Producción Agroecológica (Circular Economy and Agroecological Production Lines)]

## ► 3.3. Energy transition

Currently, Argentina's primary energy mix depends mainly on hydrocarbons, which represent 87 per cent of the total internal supply. The predominant source of energy is natural gas (BEN, 2018). Regarding electric power, thermal generation is the main source, representing 62 per cent of the installed power.

In terms of access to energy, the extent of the power grid in the country is high, reaching 98.8 per cent, compared to 96 per cent overall in Latin America and 87 per cent globally. Furthermore, 99 per cent of the population has access to clean cooking fuels, versus 89 per cent in Latin America and 64 per cent globally<sup>4</sup>. The extent of the natural gas network, on the other hand, is estimated to be approximately 70 per cent according to data from Indec for the first half of 2019, with the lack of access occurring mainly in the north-west of Argentina<sup>5</sup>.

In terms of efficiency, if the overall energy intensity is considered, meaning the ratio between the supply of primary energy and the Gross Domestic Product (GDP), then Argentina's performance is above the region's average – 0.119 TOE / \$1000 (2010 PPP)<sup>6</sup> and 0.092 TOE / \$1000 (2010 PPP), respectively – and is below the global average – 0.123 TOE / \$1000 (2010 PPP). However, there has been no evident improvement in recent years.

According to data from the International Monetary Fund (IMF), Argentina is the fourth-ranked country in the region granting the most subsidies for energy and electricity, although it has been implementing a plan to reduce subsidies since 2016 (Di Bella et al., 2015). For 2020, the fossil fuel subsidy is estimated to represent 5 per cent of the national budget, surpassing the amounts allocated

<sup>4</sup> Data from 2018 taken from the International Energy Agency. Available at <https://www.iea.org/sdg>. [Date of access: 1 March 2020].

<sup>5</sup> Available at <https://www.indec.gob.ar/indec/web/Nivel3-Tema-4-27>

<sup>6</sup> The unit of measure is "tons of oil equivalent" (TOE). PPP means "purchasing power parity".

to programmes such as the Universal Child Allowance (AUH) and the Universal Allowance for Pregnancy (AUE), as well as the transfers planned for national universities (UN Argentina, 2020).

On the other hand, the country has two energy taxes: the liquid fuels tax and the electric energy consumption tax. Even though these taxes apply a charge for the negative externalities generated by fossil fuels, in general they were created for collection purposes. The 2017 tax reform transformed the fuels tax into a liquid fuels tax and the CO<sub>2</sub> tax, in line with the international policy on carbon taxes, but with local particulars (SAyDS, 2019).

Over the last five years, Argentina has advanced significantly in the regulatory framework that regulates the generation and consumption of electric energy from renewable sources, based on Law 27191, on the promotion of renewable sources, and on Law 27424, on distributed generation. However, given that these laws are not mandatory for provinces, they have yet to be implemented in the entire national territory: the jurisdictions that would like to adhere to the promotion scheme established by these norms must include the scheme through local legislation.

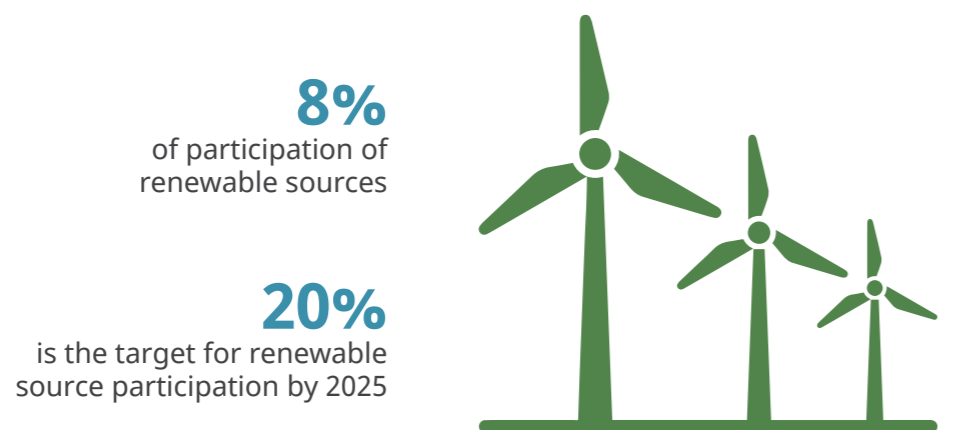
Regarding the generation of thermal energy, no promotion scheme has been enacted yet.

And regarding efficiency, even though the country does not have cross-cutting national legislation, it does have at least two draft bills before the National Congress.

Argentina is also showing progress on lighting: it has not only prohibited the import and marketing of incandescent and halogen lamps at a residential and commercial level, it is also promoting LED technology (Laws 26473 and 27492).

With respect to sustainable transport, Law 26123 is in force, which promotes the production, use and application of hydrogen as a fuel and energy vector, although no regulations have been implemented. On the other hand, there has yet to be any progress on a regulatory framework for the promotion of low-emission mobility, although there are draft bills up for debate in parliament.

Laws 27191 and 27424 have driven the penetration of renewable energies in Argentina in recent years. The former establishes objectives for electric energy consumption from renewable sources, going from 8 per cent (at 31 December 2017) to 20 per cent by 31 December 2025. And while the latter law does not establish goals, it does allow the Executive Branch to establish an objective of 1,000 MW of power over the upcoming 12 years.

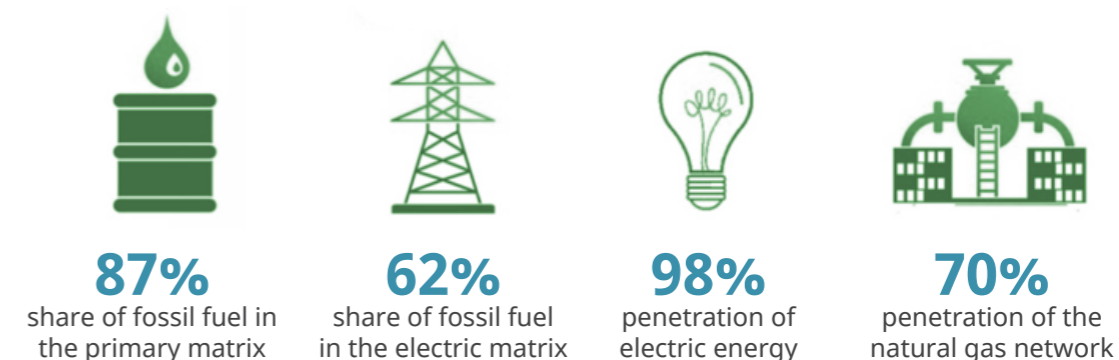


The country has abundant availability of renewable sources for generating energy, both non-conventional (wind and solar) and biomass and liquid biofuels, which are distributed throughout the entire country according to the geographic characteristics.

With respect to mobility, interurban freight transport in Argentina is heavily dominated by highway transport (92.7 per cent of all transported cargo) (SAyDS, 2018)<sup>7</sup>. Passenger transport in the Metropolitan Area of Buenos Aires (AMBA), which has the highest population density in the country, is distributed among underground trains (2 per cent), buses (38 per cent), trains (5 per cent), private vehicles (37 per cent), taxis (4 per cent) and others (14 per cent) (SAyDS, 2012).

There are a total of 13,950,048 vehicles on the road in Argentina. In terms of vehicle-density per capita, this represents 3.15 inhabitants per vehicle. Over 47.3 per cent of all vehicles are concentrated in the province of Buenos Aires and in the Autonomous City of Buenos Aires (CABA), followed by Córdoba, Santa Fe and Mendoza. Of the total number of vehicles that were added to the motor vehicle pool in 2018, 80.9% are gasoline-powered vehicles (Asociación de Fábricas Argentinas de Componentes [Association of Argentine Components Factories], 2018). By the end of October 2019, 61 electric vehicles had been registered, as well as 34 plug-in hybrid vehicles and 3,284 conventional hybrids. Regarding electric public transport, a total of 22 electric buses were estimated to be on Argentine roads by the end of 2019 (PNUMA, 2019).

<sup>7</sup> Secretariat of the Environment and Sustainable Development, Sector Plan on Transport and Climate Change, available at: <https://www.argentina.gob.ar/ambiente/sustentabilidad/cambioclimatico/gabinetenacional/2016-2019/pnamcc/transporte>.



### Policies, programmes and projects

<p>Generation from renewable energy sources</p>	<ul style="list-style-type: none"> <li>• “RenovAr” Programme (joint purchases)</li> <li>• Renewable Energies Futures Market</li> <li>• Distributed generation</li> <li>• <i>Proyectos de Energías Renovables en Mercados Rurales</i> (Projects for Renewable Energies in Rural Markets) (PERMER)</li> <li>• <i>Proyecto para la promoción de la energía derivada de biomasa</i> (Project for the promotion of energy derived from biomass) (PROBIOMASA)</li> <li>• “Cooperación Mundial Digital en Biogás” (“Global Digital Cooperation in Biogas”) Project</li> <li>• “Probiogás” Programme</li> </ul>
<p>Energy efficiency</p>	<ul style="list-style-type: none"> <li>• <i>Programa de ahorro y eficiencia energética en edificios públicos</i> (Energy savings and efficiency programme in public buildings) (PROUREE)</li> <li>• Labelling programme</li> <li>• National Home Energy Rating Programme</li> <li>• <i>Plan Alumbrado Eficiente</i> (Efficient Lighting Plan) (PLAE)</li> <li>• “Eficiencia Energética y Energías Renovables en la Vivienda Social Argentina” (“Energy Efficiency and Renewable Energies in Argentina Social Housing”) Project</li> <li>• “Vivienda Sustentable” (“Sustainable Housing”) Label</li> <li>• “Mejor Hogar Sustentable” (“Better Sustainable Home”) Programme</li> <li>• “Sustentabilizar Hogares” (“Sustainabilizing Homes”) Programme</li> </ul>

## Transport

- *Plan Nacional de Transporte* (National Transportation Plan)
- *Programa nacional de biocombustibles* (National Biofuels Programme)
- National Strategy for Electric Mobility
- *“Avanzando en un enfoque regional hacia la movilidad electrónica en América Latina”* (“Advancing on a regional approach to electric mobility in Latin America”) Programme
- *Programa Transporte Inteligente* (Intelligent Transport Programme) (PTI)
- *Proyecto de transporte sostenible y calidad del aire* (Sustainable Transport and Air Quality Project)

## 4. Recommendations

### ► Summary of the situation

In recent decades, Argentina has moved forward on designing and implementing a number of plans, programmes and projects related to environmental protection and sustainable development, with various levels of scope, implementation and impact. These actions, while they have represented a positive impact, have not necessarily been due to compliance with national environmental planning objectives or due to an overall policy on the subject. Nor have they translated into the adoption of sustainability as a core figure in the country’s production planning, whether in general or by sectors.

In some areas, there is progress in specific and advanced regulation, which is generating higher levels of certainty in programmes and projects. However, the national regulatory framework is still mostly outdated with respect to many subjects, and it lacks specific legislation regarding a comprehensive transition towards the green economy.

Furthermore, the sustainability agenda has achieved dissimilar levels of progress in the various production sectors. For example, there has been recent development on integrating renewable sources into the energy mix, although the integration of these sources represents only initial progress that needs to be developed more in depth. An example in the opposite direction is the manufacturing industry and the need to incorporate not only recycling but also the sectors that support it. In this area, there is a clear lack of active policies related to waste management and promoting the incorporation of secondary raw materials as an alternative in industrial manufacturing production. Another important aspect is the fact that, while the activities associated with the bioeconomy are among the most competitive ones in the Argentine economy, their insertion in the global market

is through commodities with relative added value. Given that this sector is vital to economic development, and aside from the incipient plans that have been developed, it is still necessary to foster an integrated, long-term policy that adds value through the industrialization of green sectors.

### ► An integrated policy of sustainable development

The transition towards an economy that is low in emissions, socially inclusive and efficient in resource management requires a number of specific and favourable circumstances. These circumstances basically consist in updated regulatory frameworks that guide public and private actions; in solid institutions that allow interaction between the players and that become reliable instances for intermediation and conciliation; and in a stable macroeconomic context that includes clear incentives for sustainable production and consumption. Moreover, an international market must be developed, as well as a legal infrastructure, commercial protocols and international aid that all favour the adoption of measures oriented at sustainability.

In this regard, the development strategy must include the design, implementation and coordination of policies that allow environmental sustainability to be mainstreamed into production and consumption processes. At the same time, the strategy must gradually but constantly seek to reduce the production asymmetries between cutting-edge activities and those with a low level of performance. The latter include those activities performed by micro- and small-sized enterprises, many of which are informal, where there is an impact on salary differences. A sustainable development agenda must therefore be designed and implemented, oriented at diversifying and integrating the production structure, thereby making it more varied and environmentally-friendly by including knowledge-intensive activities that create denser production clusters with more and better employment opportunities (Ferraro and Rojo, 2020).

The transition towards a green economy requires action by the State and the private sector at the same time. Therefore, when designing public policy, it is essential to have dialogue and cooperation between the State and the production sector as a whole (enterprises and workers). The institutionalization of tripartite dialogue will allow identifying priorities, designing strategies and drawing up policy proposals that are oriented at installing clean technologies, producing ecological goods and services and distributing the costs and benefits of the transition (ECLAC and ILO, 2018).

A just transition towards a sustainable society involves, on the one hand, the creation of decent work in the new activities that are performed in a green economy and the application of social protection policies, including the reorientation of vocational skills to attenuate the negative effects in sectors that must be transformed, the reversal of the imbalances in vocational skills that could be

caused by the technology-production changeover and the guarantee of gender equality in access to work. On the other hand, it involves the active promotion of social dialogue in all stages of the process: from the policy formulation stage to the phases of execution and evaluation, all based on respect for human rights and cultural diversity so that a consensus can be achieved regarding how we can reach environmental sustainability that goes hand-in-hand with decent work. Moreover, the creation, development and formalization of mechanisms and structures for dialogue at all levels must be promoted for the purpose of analysing ways to put all social, economic and environmental objectives into practice at a national level.

The COVID-19 pandemic will undoubtedly have serious effects on the economy and employment. The process of reactivation will be key in the transition towards a sustainable economy. And in this regard, strengthening the programmes and projects that are already in force and establishing new action lines according to a policy that has clear objectives on sustainable development can help to reactivate sectors that are highly impacted. Such a policy could contribute to the construction sector through the development of infrastructure works for adapting to and mitigating climate change or through sustainable housing plans; it could contribute to various branches of the manufacturing industry and to service providers through bioenergy, food production and bio-based materials; and it could contribute to sectors such as forest production, which can add value throughout the forest-industrial chain. All the aforementioned would be viable through public investment, budget reorientation or the implementation of specific policies or of financial instruments oriented at reactivation, among other possible measures.

## ► Recommendations related to the analysed sectors

### Bioeconomy

1. Boost the diversity and abundance of resources offered by the various regions in the country to add value to the production chain through interaction with different industrial sectors. Also promote a production approach based on an economy of variety in order to shift the current model centred on grain production towards the industrialization of biomass (foods, energy and bio-based materials).
2. Strengthen the institutional system and investments in new technologies according to regional production systems to reverse the historical deficit in infrastructures and connectivity.
3. Encourage systems of incentives and agreements to promote sustainability in traditional models, thereby allowing a diversified production matrix.

4. Promote national regulations for the application of plant health products and a national system for the preparation of public information and statistics on the use thereof according to the crop and the region. Moreover, pursue the enactment of a national law for the promotion of agroecology and for strengthening the organic production scheme.
5. Strengthen red biotechnologies associated with health. The sector has high potential due to a solid business base and the good performance of science and research applied to biotechnology, but the focus on innovation with a defined commercial use must be expanded.
6. Develop an integrated policy that sets up R&D promotion programmes and policies with the biotechnology business sector
7. Promote added value in the food industry, given that it is a notable sector in the country's economy, but it is currently inserted in global markets through agricultural commodities, whose added value is relative
8. Foster policies for the promotion of bio-based materials and bio-inputs. Strengthening and focusing on the development of local suppliers of various inputs for the food industry is key, as well as inputs for other sectors, thereby driving the gears of the value chain.
9. Move forward in the analysis and updating of regulations related to intellectual property and patents. The analysis and promotion of a regulatory framework according to the developments that the country deems to be strategic must be emphasized.
10. Strengthen the systems of environmental monitoring and safeguards in native forests, which will facilitate and favour available external financing related to the environment and climate change.
11. Increase funds for the national law on the protection of native forests (26331), and optimize the administrative system for applying the law.
12. Promote provincial fiscal incentives or payment systems for ecosystem services based on the state of conservation of forests, supplementary to the funds of Law 26331. The profitability of potential economic activities in forested regions poses the greatest threat to those regions and must be reduced to prevent deforestation.
13. Optimize spaces for the uniform coordination and promotion of practices, criteria and monitoring systems for the sustainable management of native forests.

**14.** Promote trade union-employer agreements to improve vocational skills in the forest production of native forests, given that there is a high level of informality in employment, and moreover in activities with a significant degree of risk

**15.** Strengthen plans for forest management integrating livestock. The most visible impacts of forest loss occur in yellow zones, due to livestock practices that do not comply with environmental criteria for forest management.

**16.** Sponsor a scheme for promoting intensive capital investment in the forestry sector, which has not grown in 30 years and has been excluded from the sector's economic boom over the last 15 years in the region (Brazil, Uruguay and Chile).

**17.** Promote the industrial reconversion of the cellulose and paper industry and the construction of new plants that can compete internationally. There are competitive advantages for producing long fibre, an input for manufacturing kraft paper, which is currently not produced in the country due to the lack of technology. Unlike other papers, the demand for this product is increasing worldwide due to the growing online trade.

**18.** Strengthen and expand the certified surface area of plantations, which will allow aiming for greater international insertion in markets where the environmental requirements are increasingly more demanding.

**19.** Promote the use of wood in construction through the inclusion of technical criteria for the construction of social housing in public tenders and through the promotion of green employment integrated in plans for the creation of non-profit jobs.

**20.** Reactivate the "Green Insurance" commitment designed to promote forest plantations. This insurance entered into force in 2018 through an agreement signed between the National Government and a group of 11 insurance companies of the country, whereby 1 per cent of the value of each digital policy would be allocated to the forest plantation scheme.

### Circular economy

**1.** Update legislation related to waste management under the circular economy paradigm, and promote legislation for the special management of universal waste under the principle of extended producer responsibility. Promote cleaner production legislation under minimum budgets in industrial sectors, therefore establishing priority branches and the key variables related to the environment: consumption and management of resources, energy efficiency, effluent treatment, etc.

**2.** Boost all branches of the recycling industry to aid in the process of reintroducing recovered materials into the production circuit.

**3.** Guarantee decent employment in the recycling chain through recognition of the current non-profit structures and their incorporation into the waste management systems under the principle of extended producer responsibility.

**4.** Guarantee the transition of any MSMEs that, engaged in plastics processing, have focused their production on single-use plastic products.

**5.** Promote a national policy whose objectives and guidelines are focused on recovering waste from the construction chain, as well as managing and taking advantage of household organic waste, industrial waste and pruning waste.

**6.** Produce public information nationally related to the generation and management of waste.

**7.** Mainstream a sector plan into the national climate change policy, which contemplates the reduction of GHG emissions according to correct waste management and the efficient use of materials and which moves forward on studying the life cycle of materials and products.

**8.** Guarantee, by law, that public procurement includes sustainability criteria.

### Energy transition

**1.** Advance in the design of a national energy policy that discourages the production and consumption of fossil fuels and promotes the progressive increase of energy from renewable sources for electric power and thermal generation. The following must be contemplated: the gradual elimination of universal subsidies for energy consumption, thereby considering not only the post-COVID-19 impacts but also the medium- and long-term impacts; rethinking of the guaranteed oil price and the ecological conditioning factors for the sector; updating of the CO2 tax and the establishment of new goals for integrating renewable sources into the electric energy mix.

**2.** Foster thermal solar energy through the formulation and implementation of legislation that guarantees, nationally, a system for promoting not only national producers but also consumers. Advance on incorporating biomass as a generation source of electric and thermal energy.



3. Move forward on the formulation and implementation of a minimum budgets law to guarantee the complete implementation of mandatory energy efficiency measures and actions at all levels of government and in all economic sectors.
4. Progressively reorient energy consumption subsidies towards subsidies for improving energy efficiency in homes.
5. Promote the mandatory certification of energy efficiency in buildings. Incorporate energy efficiency in the construction plans of social housing and promote efficiency in public lighting nationally by changing over to LED technology.
6. Establish a regulatory framework that drives zero-emissions mobility in Argentina. Promote the development of electric mobility in the country, update Law 26123, advance in drafting a national hydrogen plan and update the biofuels promotion scheme.
7. Design an infrastructure investment plan for adapting to and mitigating climate change that incorporates sustainable mobility – railways for cargo and passenger transport and paths for non-motorized transport, among other actions – and energy investments, such as in distribution.

