

Integrating Natural Capital into Government Post-COVID Economic Decision-Making

France case study

Study report

30/09/2021

This publication is part of a global study on nature-based recovery undertaken in partnership with the Green Economy Coalition and the International Institute for Environment and Development, and forms part of the Economics For Nature project.



The **Green Economy Coalition** is a diverse coalition of trade unions, businesses, NGOs, UN agencies and citizen's groups from around the world, all united by the belief that green and fair economies are possible, necessary, and achievable.



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Led by four global alliances, the Green Economy Coalition, the Green Growth Knowledge Partnership, WWF France and The Capitals Coalition, we are working together to make the value of natural capital visible in economic and business decisions.

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Executive summary

All over the world, the COVID crisis has exposed the lack of resilience of our economies and forced the public sector to take strong action in order to safeguard lives and increase economic growth. **As recent studies have shown, over half of global gross domestic product (GDP) is dependent on nature** (World Economic Forum, 2020) and more than 1 billion jobs globally depend on healthy and functioning ecosystems (International Labour Organisation, 2018). Recovery measures are a huge opportunity to prioritize for the first time ever safeguarding biodiversity, investing in ecosystem resilience, and putting in place mechanisms for integrating natural capital¹ into economic decision making.

Therefore, the ambition of this work is to **influence pandemic recovery plans to mainstream natural capital in economic decision-making and policy makers** to increase finances and policies to rehabilitate and conserve biodiversity.

Covering France, this publication is part of a global study on nature-based recovery that includes Brazil, France, India and Uganda. It has been undertaken in partnership with the Green Economy Coalition (GEC) and the International Institute for Environment and Development (IIED), and forms part of the Economics For Nature project. This work is funded by the MAVA Foundation.

In France, 10% of jobs directly depend on biodiversity (Delannoy, 2016). In September 2020, **the government presented a €100 billion post COVID plan to support economic activity and job creation**. Facing recent political conflicts and social tensions, **the government decided to mainly support market and industrial competitiveness, employment measures and social cohesion**.

Firstly, **positive and negative recovery policies regarding natural capital are identified** and detailed in the analysis. Secondly, the report provides **conclusions and recommendations for integrating natural capital into post-COVID recovery policies** considering the political and social context.

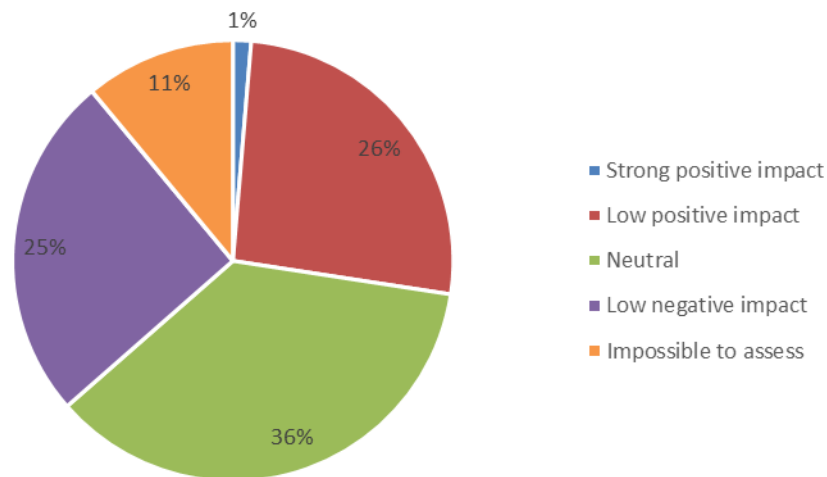
Therefore, the analysis firstly suggests **the plan's impacts on natural capital are difficult to estimate as some of them are ambiguous depending on the way economic actors respond**. **Secondly the figures demonstrate that biodiversity has been neglected in recovery decision-making**. As shown in the following figure, 39 of its measures, representing 47% of its budget, are either impossible to assess² (11%) or qualified as neutral³ (36%). In addition, only 28% of its budget (22 measures) is expected to have a positive impact whereas 25% of spending (3 measures) is expected to have a negative impact.

¹ For the methodology, our emphasis here is on sustaining and conserving natural capital by which we mean nature and biodiversity with a focus on renewable resources and ecosystems, such as forests, waterbodies and watersheds – and the biodiversity that they contain. This is the capital which is most marginalized and receives least attention from economic decision-makers.

² Impossible to assess measures are measures supporting economic sectors without direct regard to their impact on biodiversity.

³ Measures qualified as neutral support the health sector, employment, high education, etc. According to our analysis, they should not have any impact (positive or negative) on natural ecosystems, water consumption or pollution, etc.

Figure 1: Impact on natural capital according to *Plan de relance* budget (source: authors)



Despite the strong dependence of the economy on biodiversity, the analysis has revealed the **French recovery plan misses the opportunity to invest in nature and to integrate natural capital into decision-making**. Although investments in natural capital can bring benefits and growth opportunities, the study points out **a lack of attention and financing regarding biodiversity and natural capital in the French recovery plan**.

In terms of the detailed findings, the plan allocates a small portion of its budget to conservation and restoration actions, and **does not mention the use of nature-based solutions (NBS)**, which are known for **its contributions to welfare** (IPBES & IPCC, 2021) and **can help societies recover from the devastating impacts of COVID-19 by creating economic opportunities, employment, and multiple public health and wellbeing benefits through climate-responsive and nature-positive actions** (IEEP, 2021).

Finally, the analysis recommends the French government to **rigorously monitor the implementation of announced measures regarding their impact on natural capital**. Indeed, **public spending should systematically undergo a rigorous appraisal of its impacts upon biodiversity**. Methodologies that carefully assess the impact of spending on nature are already available and should continue to be developed in order to bring transparency and to facilitate robust decision-making. These will contribute to turn the tide on the devastating loss of biodiversity we are currently experiencing at the global level.

1 Introduction

1.1 Context of study

The COVID crisis and its impacts on the global economy

All over the world, the COVID crisis has exposed the lack of resilience in our economies and forced the public sector to take strong action in order to safeguard lives and increase economic growth. **As recent studies have shown over half of global gross domestic product (GDP) is dependent on nature** (World Economic Forum, 2020) and more than 1 billion jobs globally depend on healthy and functioning ecosystems (International Labour Organisation, 2018), recovery measures are a huge opportunity to prioritize for the first time ever safeguarding biodiversity, investing in ecosystem resilience, and putting in place mechanisms for integrating natural capital⁴ into economic decision making.

As a consequence, **a total of \$11.8 trillion in Post COVID stimulus package has already been rolled out by governments around the world** with more estimated to be spent for a long-term recovery. However, to date, few countries have yet taken these steps to integrate a focus on natural capital and biodiversity, and the enormous investment opportunities available to immediately improve biodiversity have been completely ignored, in favour of investments that will, in some cases, even exacerbate the situation.

The situation in France and the government response

In France, where it was shown that 10% of jobs depend directly on biodiversity (Delannoy, 2016), **the government presented in September 2020 a €100 billion plan to support economic activity and job creation**. The recovery plan, called *Plan de relance*, was designed to sustain the growth potential of the French economy. It is supposed to support companies and industries' competitiveness and invest in technologies for France, including its overseas territories, to remain among the most competitive and innovative countries. Its measures will be implemented gradually until 2022.

A study by the *Observatoire français des conjonctures économiques* (OFCE), which measures the budgetary effort of countries by adding up the support measures and those of the recovery plans, shows that, just before the second COVID wave (October 2020), France had already engaged around 4% of its GDP towards its recovery plan, compared with 6% in Italy, 6% in Germany, 6% in Spain, 7% in the United Kingdom and 11% in the United States (OFCE, 2020).

In addition, the European Central Bank (ECB) has put in place a set of monetary policy and banking supervision measures to mitigate the impact of the coronavirus pandemic on the euro area economy and to support all European citizens, including France.

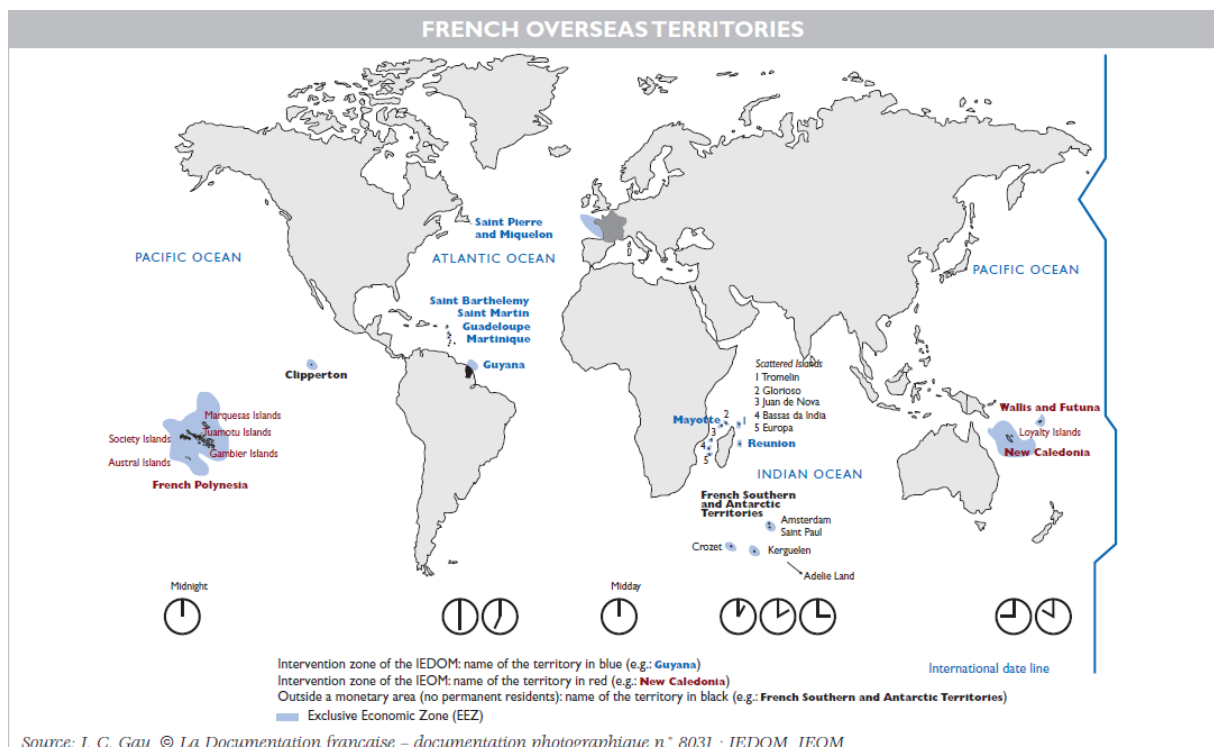
⁴ For the methodology, our emphasis here is on sustaining and conserving natural capital by which we mean nature and biodiversity with a focus on renewable resources and ecosystems, such as forests, waterbodies and watersheds – and the biodiversity that they contain. This is the capital which is most marginalized and receives least attention from economic decision-makers.

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Thanks to the strong and rapid response engaged by the French government, economic recovery is expected by the end of 2021 (INSEE, 2021). In 2020, the COVID crisis pushed French economy into a deep recession last year, its GDP falling by 8% (*Ibid*) but growth recovery is projected at 6% by 2021 (European Commission, 2021). However, many jobs remain threatened, especially in the car and space industries, and tourism sectors. Despite significant employment-related measures, the unemployment rate is supposed to go from 8% in 2019 up to 9% in 2021 (*Ibid*).

Focus on French overseas territories

Figure 2: Map of French overseas territories (source: IEDOM, IEOM)



French overseas territories appear to be the least affected because of the greater weight of the non-market sector in their economies (CEROM, 2021). However, recovery remains uncertain because of the importance of the tourism industry. French overseas territories' biodiversity is particularly rich and contributes significantly to the attractiveness and quality of these destinations. French territories can be found in four of the five oceans of our planet, making it **the world's second largest maritime domain**, and these lands are home to exceptional fauna and flora on their soil and in their waters.

Even if French overseas territories cover only 0,08% of global land surface, nine of these 12 territories are located in biodiversity hotspots. They host 1,4% of world's plants, 3% of molluscs, 2% of freshwater fishes, 1% of reptiles and 0,6% of birds, which plays an important role for their tourism sector.

Compared to metropolitan France where the rate of endemic species is low (e.g., less than 1% for vertebrates), biodiversity levels in the overseas territories are exceptional both for their richness and their uniqueness. Generally, and all groups merged, overseas communities host more species than metropolitan France. Considering only endemic species, for which it is possible to calculate the total diversity, **there is generally 26 times more plants, 3.5 times more molluscs, more**

than 100 times more freshwater fish and 60 times more endemic birds in the overseas territories than in metropolitan France; whereas no reptile or terrestrial mammal is endemic to metropolitan France, overseas communities host respectively 82 and 9-11 of these species⁵. Thus, **over 98% of vertebrate fauna and 96% of vascular plants specific to France** (whose continued populations is under French responsibility) **is focused on 22% of its territory that represent overseas communities.**

It is therefore France's responsibility to protect these overseas territories, which are refuges for animal and plant species, resources for science and medicine, and places to live and earn a living for local populations.

1.2 Objectives of the study

The objectives of this work are fourfold:

- Work with national partners in Brazil, India, Uganda and France to influence pandemic recovery plans to mainstream natural capital in economic decision-making into budgetary, fiscal, monetary and trade policy. This report serves as the French case study;
- Seek to understand what drives these decisions and how they can be made more sustainable;
- Draw lessons and make recommendations for how countries more broadly can sustain and conserve natural capital in their COVID recovery to “build back better”;
- Influence decision makers to increase finances and policies to rehabilitate and conserve natural capital and biodiversity.

⁵ <https://inpn.mnhn.fr/informations/biodiversite/france?lg=en>

2 Methodology

The France analysis identifies and documents positive and negative recovery policies regarding natural capital. In addition, the analysis provides conclusions and recommendations for integrating natural capital into post-COVID recovery policies considering the French political and social context.

Our study focuses on the *Plan de relance*, which includes budgetary, fiscal and trade measures. The analysis lists and classifies all the measures included in the announced recovery plan of €100 billion. Based on three priorities (ecology, competitiveness and cohesion) and released in September 2020, the French recovery plan includes a good number of positive measures including agriculture and biodiversity conservation. However, the plan includes measures such as the reduction of taxes on businesses by €10 billion annually and supports industrial sectors such as the car industry, which is likely to undermine natural capital.

To conduct this work, a detailed literature review has been conducted and built on existing works such as the Global Recovery Observatory of the Oxford University Economic Recovery Project. The study presents an overview of the *Plan de relance* and analyses its impact on natural capital. The analysis identifies all its budgetary, fiscal and trade measures, and categorizes them regarding their impact on natural capital according to five categories:

- Strong positive impact;
- Positive impact;
- Neutral;
- Negative impact;
- Strong negative impact;
- Impossible to assess.

Monetary measures are analysed separately because they are not included in the *Plan de relance*. In France, monetary policy is not defined by the government itself. It is defined by the Governing Council of the ECB, of which the Governor of the *Banque de France* is a member. The Eurosystem's monetary policy is then implemented within the euro zone by the national central banks of each Member State.

3 Findings and analysis of budgetary, fiscal and trade measures included in the *Plan de relance*

In September 2020, the French government announced its recovery plan, called *Plan de relance*. Relying on three pillars (green transition, competitiveness and social and territorial cohesion), **the plan includes a €100 billion effort to support economic activity and job creation** and its ambition is to sustain the growth potential of the French economy.

3.1 Overview of the *Plan de relance*

The *Plan de relance's* main ambition is to support the most strategic French sectors. Therefore, the €100 billion recovery plan relies on three objectives:

- **Green transition.** 28 measures and €30 billion will be allocated to the green transition, for investments in energy performance renovations for buildings, in “green” infrastructure and mobility, to reduce the carbon-intensity of manufacturing processes, and in the development of new green technologies (hydrogen, biofuels, recycling). The objective is to **accelerate the green transition of the French economy**, so that it becomes more sustainable and more respectful of our natural resources, while achieving carbon neutrality by 2050.
- **Competitiveness.** The recovery plan will support investments that will make the French economy more competitive. It will support the development of high added value activities in France and job creation. 14 measures and €33 billion will be allocated for boosting France’s competitiveness and economic resilience, including substantial cuts in production taxes, support for equity capital funding for businesses, investment in industrial innovation, support for exports and bolstering French industrial resilience and independence through measures to secure critical stocks and support for productive investment in France.
- **Social and territorial cohesion.** The recovery plan includes social and territorial measures that will prevent the increase of inequalities in relation to the economic impact of the COVID crisis. 22 measures and €29 billion will go towards supporting skills and social and territorial cohesion. Investing in skills safeguards employment (extended short-time working scheme), helps vulnerable groups, especially young people, become more employable through apprenticeship, vocational training and recruitment incentives, and boosts productivity (investment in skills needed in the future). Moreover, the recovery plan must strengthen both social cohesion (e.g., support for the purchasing power of the poorest households) and territorial cohesion (e.g., digital inclusion).

In the report and in the following sections, three of its measures are not analysed because they are included in another French policy (the *Programme d'investissements d'avenir 4*, the Investments for the Future Program 4) and some of their budgets have not been published. This program is the fourth phase of a policy initially designed in response to the 2008 financial crisis and which had already been prepared before the COVID crisis. Therefore, these measures were excluded from the scope of this study.

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These measures support:

- The development of sustainable city demonstrators, with the ambition to create a national network of demonstrators, on the scale of blocks or districts, illustrating the diversity of ecological transition and sustainable development issues in French urban areas. Its budget was announced in May 2021 and €305 million were allocated to this measure⁶;
- The modernisation of agricultural technologies (development of agro-equipment in agriculture, food innovation, etc.). Its budget is unknown;
- Cultural and creative sectors. Its budget was announced in December 2020 and €400 million were allocated to this measure⁷.

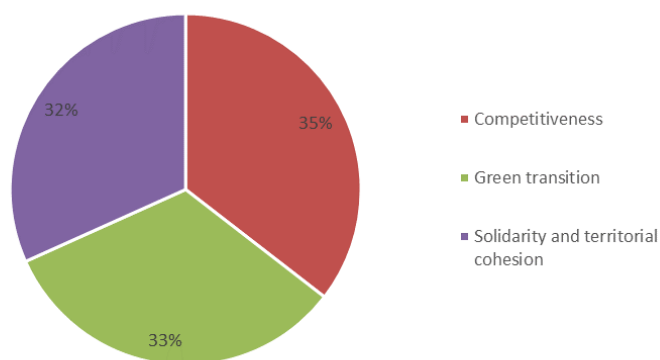
Finally, the plan includes a total of 64 measures, which 62 of them are budgetary measures.

The only fiscal measure (called Reducing company taxes) plans to reduce company taxes by €20 billion (€10 billion a year in 2021 and 2022). 42% of this amount is expected to benefit to medium-sized enterprises (MSEs, between 250 and 4 999 employees), 32% to small and medium-sized enterprises (SMEs, up to 250 employees) and 26% to large companies (more than 5 000 employees). The two main sectors to benefit would be industry (37% of the gain) and trade (15% of the gain).

Concerning trade policy, only one measure (called Support for export business) should benefit to export companies and its budget is €247 million (over 2020-2022). The objective of this measure is to reposition French SMEs in the export market in a context of recovery of activity in certain international markets, increased foreign competition and reduced risk appetite of private financial actors.

The following table and figure detail these results.

Figure 3: *Plan de relance* budget according to measures' objectives (source: authors)



⁶ <https://www.caissedesdepots.fr/actualites/demonstrateurs-ville-durable-pour-accelerer-tee-espaces-urbanises>

⁷ <https://www.culture.gouv.fr/Sites-thematiques/Industries-culturelles/Dossiers-thematiques/Consultation-publique-pour-une-strategie-d-acceleration-des-industries-culturelles-et-creatives>

Table 1: *Plan de relance* budget according to measures' objectives (source: authors)

Category	Number of measures	Budget (in M€)	% of total budget
Competitiveness	14	32 831	35%
Green transition	28	30 380	33%
Solidarity and territorial cohesion	22	29 356	32%
Total	64	92 567	100%

3.1.1 Green transition measures

With a budget of €30 billion, the 28 green transition measures are mainly aimed at the decarbonisation of the French economy. Most of them concern energy performance renovations for buildings, “green” infrastructure and mobility, and the development of new green technologies (hydrogen, biofuels, recycling).

Main measures support:

- **Rail transport and transport infrastructures.** They include €4,7 billion of investment in railway infrastructures and €550 million of investment in roads, canals, inland ports and electric charging points;
- **Energy efficiency renovation.** They include €2 billion of investment in private building renovation, €4 billion of investment in public buildings and €500 million of investment in social housing;
- **Development of hydrogen and green energies.** They include €3,4 billion of investment by 2022 and €7,2 billion by 2030 in hydrogen production. Investing in hydrogen should make many renewable energy projects profitable, which should result in a significant reduction in French greenhouse gas emissions (mobility, gas networks, industry). The objective is to **contribute to the French low-carbon strategy** thanks to the development of the uses of decarbonised hydrogen, and the development of this sector could create between 50 000 and 100 000 jobs by 2030.

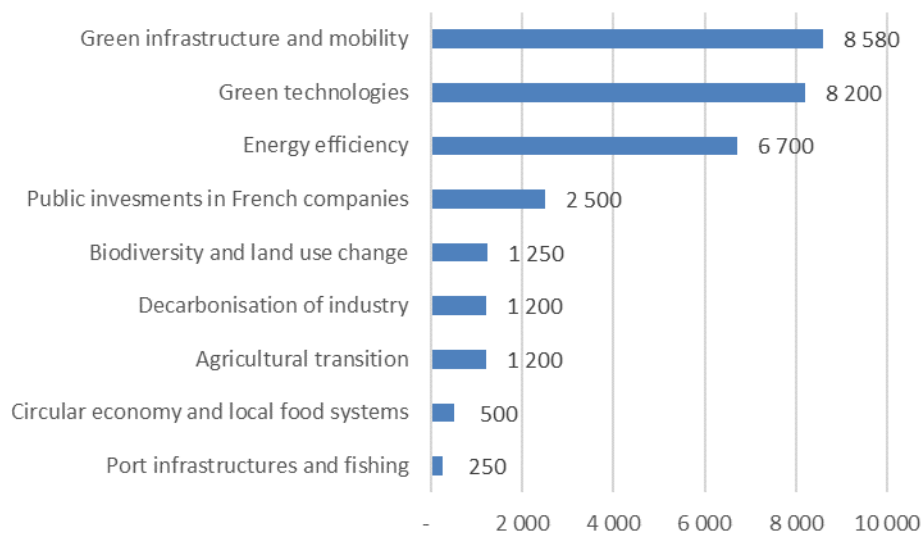
Only a small part of its budget is allocated to biodiversity and natural capital. For example, one of these measures supports **ecological restoration, risk prevention and resilience**. The measure includes €300 million to finance ecological restorations of highly damaged ecosystems, protected areas, measures to prevent coastal erosion, etc.

The following table and figure describe these results and the Appendix 6.1 lists all green transition measures.

Table 2 : Green transition measures classified according to their main objective (source: authors)

Green transition measures	Number of measures	Budget (in M€)	% of the budget
Green infrastructure and mobility	6	8 580	28%
Green technologies	4	8 200	27%
Energy efficiency	4	6 700	22%
Public investments in French companies	1	2 500	8%
Biodiversity and land use change	3	1 250	4%
Agricultural transition	5	1 200	4%
Decarbonisation of industry	1	1 200	4%
Circular economy and local food systems	2	500	2%
Port infrastructures and fishing	2	250	1%
Total	28	30 380	100%

Figure 4: Green transition measures' budgets (in € million, source: authors)



3.1.2 Competitiveness measures

With a budget of €33 billion, the 14 competitiveness measures are mainly aimed at supporting French companies and reducing their taxes (€20 billion).

France is often seen as a country where the number and level of company taxes, which weighs on the competitiveness of companies (€77 bn in 2018 and 3,2% of GDP, compared to an average of 1,6% in the European Union – Rexecode, 2020), is too significant. Industry sector's taxes represent a disproportionate share of company taxes: 19,2% of company taxes while it represents 13,6% of national value added. Thus, it is supposed company taxes, which are more numerous and higher in France than in neighbouring or competitor countries, weigh on the attractiveness of the territory and can adversely affect decisions to set up and invest, particularly by industrial companies.

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Therefore, the French government decided in 2020 to reduce company taxes for the next two years to enhance their competitiveness by lowering their taxes on added value and property.

Competitiveness measures also include the only trade action of the French recovery plan, with a budget of €247 million, which aims at strengthening the international presence of French companies in the context of a growth recovery and increased foreign competition. To do so, the government will mobilise its public agencies specialised in export and international trade, support companies willing to send employees abroad and their market research.

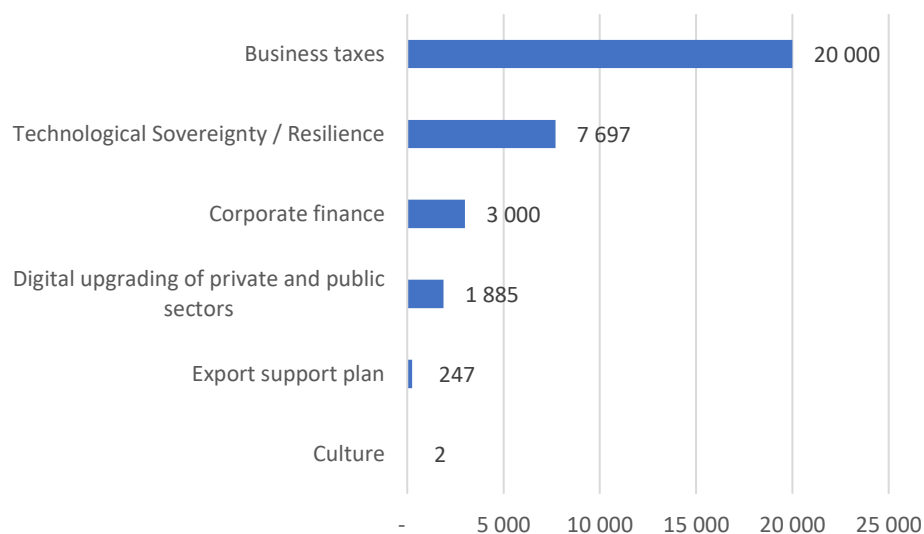
In addition, the government decided to support strategic sectors such as the car industry, the air and spatial industry, the health sector and the digital sector, which have been deeply impacted by the COVID crisis. Alongside a number of manufacturing companies, the government will create investment and investment support funds.

The following table and figure describe these results and Appendix 6.2 lists all competitiveness measures.

Table 3: Competitiveness measures according to their main objective (source: authors)

Competitiveness measures	Number of measures	Budget (in M€)	% of the budget
Business taxes	1	20 000	61%
Technological Sovereignty / Resilience	8	7 697	23%
Corporate finance	1	3 000	9%
Digital upgrading of private and public sectors	2	1 885	6%
Export support plan	1	247	1%
Culture	1	2	0%
Total	14	32 831	100%

Figure 5: Competitiveness measures' budgets (in € million, source: authors)



3.1.3 Social and territorial cohesion measures

With a budget of €29 billion, the 22 social and territorial cohesion measures are aimed at ensuring solidarity between generations, regions and all French citizens.

In order to do so, the government financed an important mechanism of partial activity. The principle is to compensate earning losses experienced by workers due to the reduction in their working time under the legal, conventional or contractual duration, due for example to the lockdown situation, while helping employers to fund this compensation. Partial activity was the main government's response to support employees and employers during the lockdown period. In 2021, it is expected that €7,6 billion should be allocated to this measure.

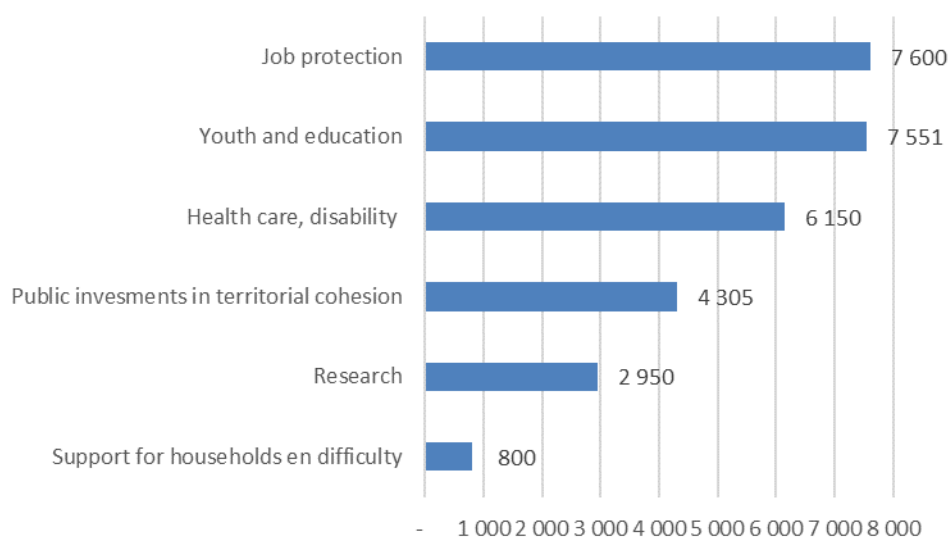
In addition, the French recovery plan mainly supports public and private investments, and education expenses.

The following table and figure describe these results and the Appendix 6.3 lists all social and territorial cohesion measures.

Table 4: Social and territorial cohesion measures according to their main objective (source: authors)

Social and territorial cohesion measures	Number of measures	Budget (in M€)	% of the budget
Job protection	1	7 600	26%
Youth and education	7	7 551	26%
Health care, disability	3	6 150	21%
Public invesments in territorial cohesion	7	4 305	15%
Research	2	2 950	10%
Support for households in difficulty	2	800	3%
Total	22	29 356	100%

Figure 6: Social and territorial cohesion measures' budgets (in € million, source: authors)



3.2 Recovery plan impacts on natural capital

Whereas natural capital and biodiversity play an important role in the French economy, much of the French recovery plan measures cannot be considered as being adequately green. Focusing on climate change mitigation, French green transition measures support mainly energy efficiency and green mobility, and do not apply to natural capital. The plan allocates a very small portion of its budget to the restoration, maintenance and protection of the natural assets on which the French economy, and our capacity to adapt to climate change and future crises, depend strongly.

Therefore, its impacts on natural capital are difficult to estimate. 39 of its measures, representing 47% of its budget, are either impossible to assess⁸ (11%) or qualified as neutral (36%) whereas 25% of its budget (3 measures) is expected to have a negative impact and 28% of it (22 measures) is expected to have a positive impact. The following table and figure describe these results.

Figure 7: Impact on natural capital according to *Plan de relance* budget (source: authors)

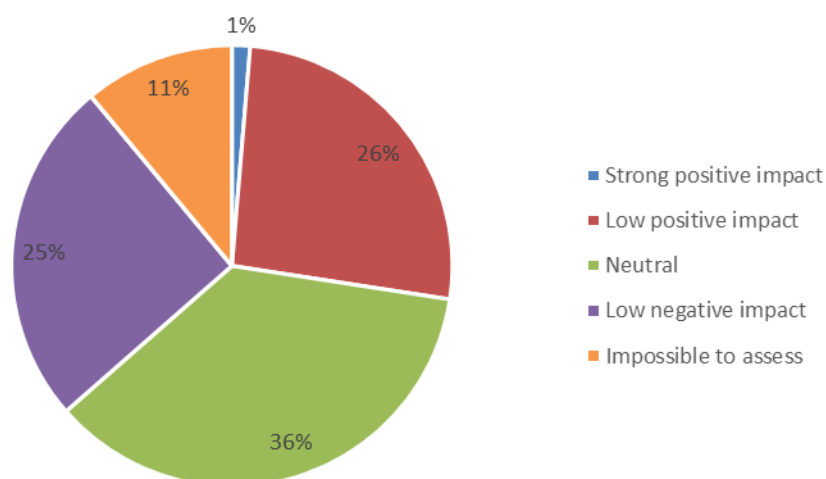


Table 5: Recovery plan's impact on natural capital (source: authors)

Impact on natural capital	Number of measures	Budget (in € billion)	% of the budget
Strong positive impact	5	1 226	1%
Positive impact	17	24 304	26%
Neutral	25	33 773	36%
Negative impact	3	23 432	25%
Strong negative impact	0	0	0%
Impossible to assess	14	9 832	11%
Total	64	92 567	100%

⁸ Impossible to assess measures are measures supporting economic sectors without regard to their impact on biodiversity.

3.2.1 Positive impacts

Out of the 64 measures, 22 recovery plan's measures are expected to have a positive impact (low and strong) on natural capital. According to our analysis, these measures are very likely to prevent biodiversity loss by mitigating climate change and reducing land-use change and degradation, two of its main drivers.

In addition, they are expected to enhance climate change adaptation by encouraging ecological restoration operations and investing in forest adaptation. These measures represent €25 billion (28% of the recovery plan budget).

The following tables list all of them and make a distinction between climate change mitigation measures and biodiversity conservation measures (which support restoration action, the sustainable use of natural resources, etc.).

Table 6: List of climate change mitigation measures expected to have a positive impact on natural capital (source: authors)

Measures	Budget (in € millions)
Trains and rail network	4 700
Energy efficiency in public buildings	4 000
Support for the development of key markets in green technologies: hydrogen, recycling and reincorporation of recycled materials, biosourced products, etc.	3 400
New Bpifrance (the French Public Investment Bank) climate products	2 500
Energy efficiency in private buildings	2 000
Developing green hydrogen	2 000
Supporting the demand for green vehicles under the automobile recovery plan	1 900
Decarbonisation of industry	1 200
Energy efficiency in public administration buildings	500
Energy efficiency for SMEs	200
Electrifying ports	200
Electrifying public vehicles	180
Total	22 780

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Table 7: List of biodiversity conservation measures expected to have a positive impact (source: authors)

Measures	Budget (in € millions)
Densification and urban renewal	650
Transformation of the agricultural sector (organic products, short circuits, etc.)	400
Ecological restoration, risk prevention and resilience	300
Water networks and modernisation of wastewater treatment plants, including in overseas territories	300
Modernisation of sorting/recycling centres and waste recovery	274
Renewal of agricultural equipment	250
Investment in recycling and reuse (including support for the plastics sector)	226
Helping forests to adapt to climate change in order to better mitigate it	200
Plant-based proteins strategy	100
Support for the development of sustainable tourism	50
Total	2 750

Five of these actions, representing altogether only 1% of the total Euro 100 billion recovery budget, are expected to have a strong positive impact on natural capital:

- **Plant-based proteins strategy.** The French government will allocate €100 million to support the **production of plant-based proteins** and reduce its dependence on imported soya. The objective is to improve its independence towards soya importations for animal consumption and increase the human consumption of plant-based proteins. This measure is expected to have a strong positive impact on natural capital because it will reintroduce legumes into crop rotations;
- **Helping forests to adapt to climate change in order to better mitigate it.** This €200 million measure should help public and private forest owners to renew and diversify their forests and ensure the resilience of forest ecosystems in the context of climate change. Financed projects could include **reforestation, forest and tree research, and support to the forest sector.**
- **Investment in recycling and reuse (including support for the plastics sector).** The government will allocate €226 million to support recycling and re-use projects. In addition to the impacts on the environment through the **reduction of greenhouse gas emissions and consumption of natural resources**, it is estimated the collection, sorting and recycling of waste creates 8 jobs for every 1000 tonnes of waste that is not landfilled. For plastics, an additional annual capacity to incorporate 700 000 tonnes of recycled plastics is targeted by the end of the 2021-2022 period.
- **Ecological restoration, risk prevention and resilience.** The measure includes €300 million to finance **the ecological restoration of highly damaged ecosystems, protected areas**, measures to prevent coastal erosion, including in overseas territories.
- **Transformation of the agricultural sector (organic products, short circuits, etc.)** This €400 million measure will support any action aimed at improving France access to healthy, safe, sustainable, local and quality food. These actions will include the plantation of natural hedges (€50 million), structuring the agri-food sector, the **development of organic farms**,

territorial food projects (construction of territorial food systems at the level of local authorities), local food distribution projects, **eco-friendly restaurants**, etc.

Focus on the “Ecological restoration, risk prevention and resilience” measure

The COVID crisis acted as a strong reminder our society is dependent on high-functioning biodiversity and ecosystem services and highlighted our expectations in terms of conservation policies. However, restoration projects rely mainly on public funding.

As the crisis has led to a significant drop in economic activity, the French government decided to strengthen its action towards nature-based professions and ecological transition in order to support a low-carbon and resilient economy. Such an action will directly contribute to the development of territories, to the improvement of the living environment of citizens and support jobs that cannot be relocated. In all French territories (overseas territories included), the objective will be to carry out ecological restoration operations and to support green transition sectors.

With a budget of €300 million (2021-2022), financed actions will include:

- Ecological restoration operations on roads and other infrastructures (dams, railway infrastructures, etc.). These actions will involve morphological restoration, ecological continuity, wetland restoration and restoration of marine and coastal environments, etc.;
- Restoration of protected places and areas;
- Improving coastal management and preventing coastal erosion;
- Improving dam safety.

In addition, the French government will monitor these actions using the following indicators:

- Surface of renatured or restored areas, including wetlands, coastline, etc.;
 - Number of ecological infrastructures;
 - Length of protected pathways;
 - Number of engaged ecological restoration projects;
 - Number of restored dams.
-

3.2.2 Negative impacts

Out of the 64 measures, 3 recovery plan's measures are expected to have a negative impact on natural capital. They represent €23 billion (25% of the recovery plan budget). The French recovery plan is not expected to have a strong negative impact on natural capital, actually none of these measures are expected to have a strong negative impact on biodiversity, but a significant part of its budget is aimed at supporting industry and enhancing competitiveness, including environmentally damaging sectors. These measures include:

- **Reducing company taxes.** This measure represents a €20 billion budget and plans to reduce company taxes in order to improve their competitiveness. However, reducing government revenue and its capacity to finance biodiversity conservation, its impacts on natural capital and biodiversity are expected to be negative. In addition, this measure will indistinctly include tax reductions for environmentally harmful or friendly products.
- **Supporting the air industry.** According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), climate change has been identified as one of the five direct drivers of biodiversity loss and could become the greatest pressure on biodiversity, overtaking land-use change. In consequence, supporting the air industry, which contributes strongly to global warming, should have negative impacts on natural capital.
- **Recovery plans for the aeronautics and automotive sectors.** As indicated before, support to green-house intensive sectors will negatively impact biodiversity. Therefore, supporting the air and automotive industry with a budget of €2,6 billion will have a negative impact on natural capital.

As previously mentioned, supporting the air and the car industry is likely to increase greenhouse gas emissions and lead to biodiversity loss. The above-mentioned measures could be made neutral if they could support for example the decarbonisation of the air sector. As of today, airlines are still exempted of fuel taxes. Therefore, financial support should be provided in the condition that companies pay tax and increase their investments in green technologies after the crisis.

Regarding the automotive sector, electric cars in 2020 still represent a small portion of market share (6,4%) despite a strong increase since 2019 (1,9%). The electrification of these sectors is likely to reduce greenhouse gas emissions but other negative effects on natural capital can still be expected. Mining materials for electric batteries, for example, could directly impact the environment in developing countries such as Congo. Currently, more than half of the global supply of cobalt, which is used in electric batteries, comes from the Democratic Republic of Congo and some regions of Central Africa that provide key habitats for bird species could be deeply impacted (US Congressional Research Service, 2020). In order to minimize negative impacts upon natural capital, it will be essential that public spending and investments undergo a rigorous evaluation using a robust and consistent framework that brings transparency and complete understanding of their effects on biodiversity.

Measures supporting natural capital impacting sectors should either be directed to a strong incentive for companies to move away from their business as usual processes or should not be included at all in a natural capital framing *Plan de relance*.

The following table details all measures expected to have a negative impact on natural capital.

Table 8: List of measures expected to have a negative impact on natural capital (source: authors)

Measures	Budget (in € million)
Supporting the air industry	832
Recovery plans for the aeronautics and automotive sectors	2 600
Reducing company taxes	20 000
Total	23 432

Focus on the “Reducing company taxes” measure

With a budget of €20 billion, reducing company taxes is the main action of the *Plan de relance*. This measure is supposed to support French companies and industries’ competitiveness. It was shown in Section 3.1.2 that France is often seen as a country where the number and level of company taxes, which weighs on the competitiveness of companies, is too significant. In consequence, the French government decided in 2020 to reduce company taxes for the next two years by €10 billion a year (€20 billion in total). Even if this measure is not directly aimed at environmentally harmful sectors, it will reduce government revenue and its capacity to finance biodiversity conservation, which still depend strongly on public funding. In addition, this measure will indistinctly include tax reductions for environmentally harmful or friendly products. According to our analysis, this measure is expected to have negative impacts on natural capital.

3.2.3 Uncertainties and neutral measures

On the one hand, an important part, 36% of the *Plan de relance* budget is not expected to have any significant impact on natural capital. The 25 measures qualified as neutral support employment, high education, the health sector, etc. According to our analysis, they should not have any impact (positive or negative) on natural ecosystems, land use change, natural resources consumption, pollution, etc. These measures represent €34 billion.

The following table details all of them.

Table 9: List of measures expected to have no significant impact on natural capital (source: authors)

Measures	Budget (in € millions)
Long-term partial activity and training for employees in partial activity	7 600
Public investments in the health sector	6 000
Recovery plan for the Banque des territoires (construction of social housing, land for small businesses)	3 000
Aid for apprenticeships and professionalization contracts, civic service	2 700
Support for the development of key sectors: digital and health	2 600
Financing the higher education, research and innovation ecosystem and promoting research (PIA)	2 550
Training for the professions of the future	1 600
Digitisation of public services (schools, justice, culture)	1 500
Youth support	1 300
Strengthening the means of intervention and support of France Compétences and Pôle Emploi	1 000
Investment programme in skills/digitisation of training	900
Increase in the back-to-school allowance, €1 university restaurant ticket	600
Support for the space sector and funding of dual space research	515
Development of digital technology throughout the territory (very high speed, digital inclusion)	500
Strengthening the resources of the National Research Agency (ANR)	400
Modernisation of slaughterhouses and biosecurity in livestock farming	250
Nuclear: development of skills, industrial investments, modernisation in subcontracting subcontracting.	200
Support for associations helping vulnerable people and development of emergency accommodation	200
Renovation of city centre shops	150
Recruitment bonus for disabled workers	100
Internships of excellence	50
Support for projects in the health security sector, access to a vaccine	50
Support for local authorities: revenue guarantees and direct support for local investment	5
Support of the cultural and creative sectors	2
Hiring incentives	1
Total	33 773

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On the other hand, some measures are impossible to assess because their impacts on biodiversity will strongly depend on their implementation. Most of these measures support SMEs and MSEs, transport infrastructures, industry.

Some of these measures include:

- Business support actions, which can support environmentally damaging companies;
- Transport infrastructures actions, which can increase land-use change and habitat fragmentation;
- Increased support for the fishing industry, which can lead to overfishing.

However, if implemented correctly, some of these measures could have a positive impact on natural capital. For example, the French government could add environmental conditions to the fishing, aquaculture and fish trade measure in order to encourage the use of selective fishing methods or reduce the impact of bottom trawling.

Likewise, transport infrastructures actions are very likely to cause habitat fragmentation and to affect biodiversity by preventing animal movement and plant dispersal. Thus, the government could monitor the implementation of ecological and wildlife corridors in order to link the divided areas and to prevent negative impacts on natural capital.

14 measures are qualified as impossible to assess and they represent €10 billion (11% of the total recovery budget). Among them, the “Support for export business” measure is also qualified as impossible to assess because it is likely to support sectors indistinctly of their impacts on biodiversity.

The following table details all of them.

Table 10: List of measures impossible to assess (source: authors)

Measures	Budget (in € millions)
Strengthening the equity capital of SMEs and MSEs	3 000
Aid for innovation, innovation projects in strategic sectors	1 950
Developing daily mobility	1 200
Relocation: securing critical supplies	600
Transport infrastructures development	550
Equity investments	500
Relocation: support for industrial projects in territories	400
Digital upgrading of SMEs and MSEs	385
Modernisation of the national road network and strengthening of bridges	350
Preservation of R&D employment	300
Support for local development actions, particularly in the overseas territories	250
Support for export business	247
Fishing, aquaculture, fish trade	50
Strengthening the resilience of electricity networks	50
Total	9 832

3.2.4 Estimation of the Natural Capital COVID Recovery Index: positive spending on natural capital as against negative spending on natural capital

All over the world, the 50 leading economies, including France, have spent more than \$2 trillion in response to the COVID crisis. In France, the government has allocated nearly €100 billion, which represents 4% of its 2019 GDP, to recovery spending (O'Callaghan et al., 2020), making the country **the 7th highest recovery plan expenditure relative to its GDP.**

However, only 28% of the French recovery budget is expected to have a positive impact on natural capital while 25% of the French recovery plan is expected to have a negative impact on natural capital.

Most of the French recovery plan leaves out natural capital, with 47% of its budget presenting uncertainties or expected to have no significant impacts on natural capital.

4 Findings and analysis of monetary measures

In France, monetary policy is not defined by the government itself. It is defined by the Governing Council of the European Central Bank, of which the Governor of the *Banque de France* is a member. The Eurosystem's monetary policy is then implemented within the euro zone by the national central banks of each Member State.

In June 2021, Christine Lagarde, President of the European Central Bank (ECB), announced the ECB's intentions to invest in green and digital transformation. According to her, "green and digital investments are often two sides of the same coin and digital technologies such as smart urban mobility, precision agriculture and sustainable supply chains are critical to the green transition".

However, the ECB's response to COVID crisis was multi-sectoral and did not tackle environmentally friendly sectors only. The ECB's objective was to protect all the euro area economy by setting monetary policy and banking supervision measures to mitigate the impact of the COVID pandemic on economy and to support all European citizens. They were mainly aimed at banks in order to keeping borrowing affordably, supporting access to credit for companies and households, and increasing banks' lending capacity. The central bank designed a €1 850 billion pandemic emergency purchase programme (PEPP) valid until at least the end of March 2022, which aims to lower borrowing costs and increase lending in the euro area. This programme is expected to help citizens, firms and governments get access to funds they may need to weather the crisis. This programme complements the asset purchase programmes they have had in place since 2014.

While this programme constitutes quantitative easing in order to support economic growth across the euro area and help return to inflation levels below, but close to, 2%, monetary measures don't relate to biodiversity and natural capital. Therefore, their impact on natural capital is impossible to measure in the context of this study.

5 Conclusions and recommendations

To conclude, our analysis has covered all fiscal, budgetary, trade and monetary, which are defined at the European level, measures implemented by the French government in response to the COVID crisis. The plan includes 62 budgetary measures, one trade measure and one fiscal action.

Although investments in natural capital can bring benefits and growth opportunities, the study points out **a lack of attention and financing regarding biodiversity and natural capital in the French recovery plan**. Despite a complicated social and political context, making recovery uncertain, the government misses the opportunity to invest massively in biodiversity conservation and natural capital related jobs. An important part of its budget is aimed at environmentally harmful industries such as the air and the car industry whereas it could focus more on the agri-food industry and its sustainable transition. Even if these measures support the decarbonisation of these sectors, negative impacts on natural capital can be expected and the

In addition, the *Plan de relance* allocates a small portion of its budget to conservation and restoration actions, and an even smaller portion to nature-based solutions (NBS) such as the plantation of natural hedges. However, NBS are defined by IUCN as “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”.

According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the Intergovernmental Panel on Climate Change (IPCC), implementing NBS creates co-benefits for adaptation to climate change, for nature and its contributions to people (2021). In addition, they can help societies recover from the devastating social and economic impacts of COVID-19 by creating economic opportunities, employment, and multiple public health and wellbeing benefits (IEEP, 2021).

This report highlights the fact that **the French government has missed the opportunity in its *Plan de relance* to protect biodiversity and integrate natural capital in its recovery package**. Even if a big part of its budget categorized as “green”, natural capital is not considered as significant in the French recovery despite its importance in the economy and human well-being.

Therefore, the study strongly suggests the French government to include biodiversity and natural capital conditions to the *Plan de relance's* measures. With a budget of €17 billion, 17 of its measures are qualified as impossible to assess because their impacts on biodiversity will strongly depend on their implementation. Most of its measures support SMEs and MSEs, transport infrastructures and industry, without any consideration about their impact on natural capital. The objective here would be to dedicate this budget mainly to environmentally friendly sectors.

5.1.1 Conclusions

Natural capital spending can cover a broad range of policies and actions and bring large benefits to the economy. Recent studies have shown nature-based activities such as afforestation, agroforestry, the creation of green spaces and management of protected parks and areas can all generate a wide range of jobs from low-skill entry level to high-skill jobs (Raymond et al., 2017).

One of the other advantages of NBS is they can bring immediate stimulus by producing an average of 60% of both their lifetime jobs and economic impact (gross value-added, or GVA), compared to less than 40% of lifetime jobs and GVA in the first year of a set of typical EU National Resilience and Recovery Plans investments (Vivid Economics, 2020).

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In addition, since a high proportion of spending on natural capital investments is directed to labour and sourcing of natural resources, risks of offshoring government spending to imports are low and the economic multiplier high (Nair & Rutt, 2009).

In the long term, the degradation of soil quality, waterways, and biodiversity can act as significant handbrakes against growth in strategic sectors for France such as agriculture and tourism, in overseas territories especially (Görlach et al., 2004), in addition to disrupting critical food supply chains (Altieri, 2009). Therefore, protection of natural resources should be considered as an act to support the long-term economic strength of these sectors.

Despite these opportunities, the analysis points out a strong lack of attention regarding natural capital coming from the French government. Only 28% of its recovery plan's total budget (€100 billion) is expected to have a positive impact on natural capital whereas 25% of its budget is expected to have a negative impact on biodiversity, 11% of it is impossible to assess and 36% of it is expected to have no significant impact on biodiversity. Even if one third of its budget is categorized as "green", these measures mainly focus on decarbonisation and don't incorporate biodiversity protection. Despite its strong importance in the French economy, the study shows **very few measures are aimed at increasing biodiversity and safe-guarding natural capital.**

5.1.2 Political and social context

Over the past few years, France has faced a number of crises (security, social, etc.), creating a complicated political and social environment, and making recovery from COVID crisis uncertain.

Prior to the COVID crisis in particular, France faced a massive social crisis with the yellow vest movement starting in 2018 and continuing 2019. Motivated by rising fuel prices and in opposition to the carbon tax, the movement rapidly grew into violent protests claiming that a disproportionate burden of the government's tax reforms was falling on the working and middle classes, especially in rural and peri-urban areas.

In addition, the French government announced in December 2019 its intention to conduct a vast pension reform, which caused significant protests at the beginning of 2020, just a few weeks before the country was affected by the COVID crisis.

As a consequence, one of the main objectives of its recovery plan has been to save jobs and prevent social exclusion for vulnerable populations at all costs. The *Plan de relance* includes essential measures such as supporting industry, preventing the decline of rural and peri-urban areas, the partial activity scheme, financing of education and training, etc.

More than enhancing economic growth, one of the main objectives of the *Plan de relance* is to avoid any social conflict and to foster political stability for the next few years.

5.1.3 Recommendations

Currently, the French recovery plan does not mention any conditionality for the attribution of its funds. Therefore, the study strongly suggests the French government in the short run to **add environmental conditions to industry and companies support measures.** The number of uncertainties regarding the recovery plan's impacts on biodiversity is important and, in order to protect natural capital, it will be essential for the French government to focus its investments towards environmentally friendly sectors.

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In addition, the analysis suggests the government to **rigorously monitor the implementation of announced measures regarding their impact on natural capital**. If not, it is likely the *Plan de relance* will finance environmentally harmful actions and it will be important to anticipate possible negative impacts of its measures. Therefore, the French government should consider the inclusion of biodiversity related indicators in their implementation in order to preserve natural capital.

More specifically, transport infrastructures actions are very likely to cause habitat fragmentation and to affect biodiversity by preventing animal movement and plant dispersal. Thus, the study considers the government should **monitor the implementation of ecological and wildlife corridors** in order to link the divided areas and to prevent negative impacts on natural capital.

In the long term, a large number of actions remain available to France and some countries have already engaged important investments such as China, which financed waterway protection and enhancement (\$15,5 billion), public parks and green spaces (\$9,5 billion) and ecological conservation initiatives (\$1,6 billion), and Spain, which strongly financed tree planting and biodiversity protection (\$10,4 billion).

The study has shown that systematizing NBS should be considered a way to integrate natural capital into the economy. More than just providing actions to restore ecosystems, NBS can play an important role in climate mitigation and adaptation and significantly increase human well-being (IPBES and IPCC, 2021), providing important economic benefits.

In France for example, projects such as the *parc des Aygalades*, which is used for high-capacity hydraulic regulation in case of flooding by the city of Marseille, have shown NBS can be more profitable than human-made infrastructures and that investing in ecological engineering activities can bring more benefits (CDC Biodiversité & Vertigo Lab, 2019).

Another famous example is the largest restoration project in Europe, the Emscher Landscape park in Germany, which in almost 20 years has generated an estimated 85 892 jobs (WWF and International Labour Organization, 2020).

In order to better integrate natural capital into its economy, other measures for the French government could include:

- Reducing taxes on sustainable and eco-friendly goods and services, including manufactured goods and chemicals which have a positive environmental impact;
- Encouraging actions aimed at reducing plastic waste, which strongly contributes to pollution and affects the marine environment;
- Reducing natural resources extraction, which has been identified as one of the main factors of biodiversity loss.

Finally, the analysis suggests public spending should systematically undergo a rigorous appraisal of its impact upon natural capital using a robust and consistent framework that brings transparency to spending decisions and helps governments make the most of its spending. Methodologies that carefully assess the impact of spending on nature are already available and should continue to be developed in order to facilitate robust decision-making and to be widely adopted.

6 Appendix

6.1 Green transition measures

Table 11: Green transition measures of the French recovery plan (source: authors)

Measures	Budget (in M€)
Trains and rail network	4 700
Energy efficiency in public buildings	4 000
Support for the development of key markets in green technologies: hydrogen, recycling and reincorporation of recycled materials, biosourced products, etc.	3 400
Recovery plans for the aeronautics and automotive sectors	2 600
New Bpifrance (the French Public Investment Bank) climate products	2 500
Energy efficiency in private buildings	2 000
Developing green hydrogen	2 000
Supporting the demand for green vehicles under the automobile recovery plan	1 900
Decarbonisation of industry	1 200
Developing daily mobility	1 200
Densification and urban renewal	650
Transport infrastructures development	550
Energy efficiency in public buildings	500
Transformation of the agricultural sector (organic products, short circuits, etc.)	400
Ecological restoration, risk prevention and resilience	300
Water networks and modernisation of wastewater treatment plants, including in overseas territories	300
Modernisation of sorting/recycling centres and waste recovery	274
Modernisation of slaughterhouses and biosecurity in livestock farming	250
Renewal of agricultural equipment	250
Investment in recycling and reuse (including support for the plastics sector)	226
Energy efficiency for SMEs	200
Helping forests to adapt to climate change in order to better mitigate it	200
Electrifying ports	200
Nuclear: development of skills, industrial investments, modernisation in subcontracting subcontracting.	200
Electrifying public vehicles	180
Plant-based proteins strategy	100
Fishing, aquaculture, fish trade	50
Strengthening the resilience of electricity networks	50
Total	30 380

6.2 Competitiveness measures

Table 12: Competitiveness measures of the French recovery plan (source: authors)

Measures	Budget (in M€)
Reducing company taxes	20 000
Strengthening the equity capital of SMEs and MSEs	3 000
Support for the development of key sectors: digital and health	2 600
Aid for innovation, innovation projects in strategic sectors	1 950
Digitisation of public services (schools, justice, culture)	1 500
Supporting the air industry	832
Relocation: securing strategic supply chains (health, new technologies, food)	600
Support for the space sector and funding of dual space research	515
Equity investments	500
Relocation: support for industrial projects in territories	400
Digital upgrading of SMEs and MSEs	385
Preservation of R&D employment	300
Support for export business	247
Support of the cultural and creative sectors	2
Total	32 831

6.3 Social and territorial cohesion measures

Table 13: Social and territorial cohesion measures of the French recovery plan (source: authors)

Measures	Budget (in M€)
Long-term partial activity and training for employees in partial activity	7 600
Public investments in the health sector	6 000
Recovery plan for territories (construction of social housing, land for small businesses)	3 000
Aid for apprenticeships and professionalization contracts, civic service	2 700
Financing the higher education, research and innovation ecosystem and promoting research	2 550
Training for jobs of the future	1 600
Youth support	1 300
Strengthening the means of intervention and support of French agencies: <i>France Compétences</i> and <i>Pôle Emploi</i>	1 000
Investment programme in skills/digitisation of training	900
Increase in the back-to-school allowance, €1 university restaurant ticket	600
Development of digital technology across the territory (digital inclusion)	500
Strengthening the resources of the National Research Agency (ANR)	400
Modernisation of the national road network and strengthening of bridges	350
Support for local development actions, particularly in the overseas territories	250
Support for associations helping vulnerable people and development of emergency accommodation	200
Renovation of downtown building and storefronts	150
Disabled workers hiring incentives	100
Internships of excellence	50
Support for projects in the health security sector, access to a vaccine	50
Support for the development of sustainable tourism	50
Support for local authorities: revenue guarantees and direct support for local investment	5
Hiring incentives for companies	1
Total	29 356

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