

## ECOLOGICAL TRANSITION IN THE RECOVERY FUND

### 1. INTRODUCTION

In order to support the repair of the economic and social damage caused by the Covid-19 pandemic, the European Commission, the European Parliament and EU leaders approved on July 21, 2020<sup>1</sup> a temporary recovery facility equal to Euro 750 billion called the NextGenerationEU or Recovery Fund (“**Recovery Fund**”).

The centrepiece of the Recovery Fund is the recovery and resilience facility, an instrument equal to Euro 672.5 billion of loans and grants available to Member States to face the economic and social impact of the Covid-19 pandemic and strengthen their economies, making them more sustainable and resilient to current and future challenges.

The Member States, in order to receive support under the facility, have to submit to the European Commission their national recovery and resilience plans setting out a programme of reforms and public investment projects. The Commission will assess national plans that include, *inter alia*, green transition policies and measures to contribute to the green transition of Member States’ communities and economies in line with the objectives set by the Paris Agreement<sup>2</sup>, the European Green Deal<sup>3</sup> and the UN 2030 Agenda for Sustainable Development<sup>4</sup>.

According to the indications of the European Commission, the objectives of one of the strategic missions contained within the proposal of the Italian National Recovery and Resilience Plan (“**PNRR**”) approved by the Council of Ministers of the Conte Government on January 12, 2021<sup>5</sup> to which approximately Euro 70 billion is allocated, are mainly focused on the achievement of environmental sustainability and envisage significant investments in (i) renewable energy, (ii) hydrogen, and (iii) sustainable mobility, with the aim of making Italy a better country in terms of both ecology and energy.

The investment actions of such mission shall be accompanied by specific reforms aimed not only at fostering energy transition and the ecological changeover, but also at promoting the implementation of the Action Plan for the Circular Economy<sup>6</sup>. Such Plan provides for measures throughout the life cycle of products with the goal of reducing the EU’s consumption over the next decade, while doubling the rate of material reuse; it focuses on design and production for the circular economy, with the purpose of ensuring that the resources used are kept in the EU economy for as long as possible.

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<sup>1</sup> <https://www.consilium.europa.eu/media/45118/210720-euco-final-conclusions-it.pdf>

<sup>2</sup> The Paris Agreement is the first universal and legally binding agreement on climate change, adopted at the Paris Climate Conference in December 2015.

<sup>3</sup> The European Green Deal sets out a roadmap to make the EU the first climate neutral continent by 2050. It is a strategy for European growth that aims to reduce emissions, create employment and improve collective well-being.

<sup>4</sup> The 2030 Agenda for Sustainable Development is a programme of action for people, planet and prosperity signed in September 2015 by UN Member States. It encompasses 17 Sustainable Development Goals (SDGs) in a major action programme with a total of 169 targets.

<sup>5</sup> Such document is currently under review by Draghi Government.

<sup>6</sup> In March 2020, the European Commission adopted a new Action Plan for the Circular Economy that is one of the main elements of the European Green Deal. By means of measures covering the entire life cycle of products, the Plan aims to make our economy more suitable for a green future, to strengthen its competitiveness while protecting the environment and to establish new rights for consumers.

## 2. THE MAIN ELEMENTS OF THE PNRR “ECOLOGICAL TRANSITION” MISSION

The ecological transition involves the transformation of the production system towards a more sustainable model, which makes energy production, industrial production and people’s lifestyles less harmful to the environment. In Italy, a Department for ecological transition and green investments has been created to deal with “*circular economy, combating climate change, energy efficiency, improving air quality and sustainable development, international environmental cooperation, environmental assessment and authorisation, and environmental recovery*”. In addition, the Ministry for Ecological Transition, chaired by physicist Roberto Cingolani, has been recently established to meet the Recovery Fund’s requirements.

Reducing emissions, improving energy efficiency and developing a hydrogen supply chain: among others, these are the main objectives of PNRR’s ecological transition mission, ranging from green hydrogen to renewable energies, from cycle paths to reforestation and waste recycling. Please see below an analysis of the main elements of such mission.

### 2.1. Renewable energy

One of the European Union’s relevant innovations in renewable energy sector has been the Directive 2018/2001 on the promotion of the use of energy from renewable sources. Such Directive, in fact, states that: “*In accordance with Article 194(1) of the Treaty on the Functioning of the European Union (TFEU), promoting renewable forms of energy is one of the goals of the Union energy policy. The increased use of energy from renewable sources or ‘renewable energy’ constitutes an important part of the package of measures needed to reduce greenhouse gas emissions and comply with the Union’s commitment under the 2015 Paris Agreement on Climate Change*”. Such Directive urged the Member States to implement a green transition policy, to set support systems for energy from renewable sources and to calculate the share of renewable energy, to engage in targeted cooperation on joint renewable energy projects and to use renewable energy not only in the transport sector, but also in building heating systems in order to reduce pollutant emissions.

In addition to such Directive 2018/2001, at European level, the following should be mentioned:

- (i) Regulation 2018/2011, which lays the ground for reliable EU governance of energy and climate action, based on (a) energy security; (b) internal energy market; (c) energy efficiency; (d) decarbonisation process; (e) research, innovation and competitiveness; and
- (ii) Directive 2018/2002, which establishes “*a common framework of measures to promote energy efficiency within the Union in order to ensure that the Union’s 2020 headline targets on energy efficiency of 20% and its 2030 headline targets on energy efficiency of at least 32.5 % are met and paves the way for further energy efficiency improvements beyond those dates*”.

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<sup>7</sup> <https://www.minambiente.it/pagina/dipartimento-la-transizione-ecologica-e-gli-investimenti-verdi-ditei>

Investments in renewable energies are a high priority also in the PNRR, which envisages economic interventions and contributions with the aim of designing photovoltaic and offshore wind energy systems – which provide support in increasing national solar energy production and in generating intellectual property and acquiring technologies and skills necessary for the design of high-efficiency turbines – and plants that are designed to exploit grid parity, *i.e.* the point where the cost of renewable electricity is equal to that of electricity deriving from traditional sources (such as fossil fuels).

The PNRR also envisages the upgrading of electrical and thermal plants through physical infrastructure and digitalisation interventions on the electricity distribution network. Introducing the topic of sustainable mobility, the PNRR underlines the importance of expanding the number of recharging stations for electric vehicles: the key objective is to reach 6 million electric vehicles in circulation by 2030.

The PNRR is an addition to a wide range of measures introduced in Italy in the past few years, including:

- (i) Legislative Decree no. 28/2011, which defines renewable energy as wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydraulic, biomass, landfill gas, residual gas from depuration processes and biogas;
- (ii) the FER<sup>8</sup> Decree (Ministerial Decree of July 4, 2019) aimed at supporting the production of electricity from plants powered by renewable energy sources; and
- (iii) the National Energy Efficiency Fund, regulated by the Interministerial Decree of December 22, 2017, aimed at fostering, on the basis of objectives and priorities established by such Decree and subsequent updates, the financing of interventions necessary to achieve national energy efficiency objectives.

## **2.2. Hydrogen**

### ***Italian and European hydrogen legislation***

In Italy, the production and distribution of hydrogen have been regulated, until 2018, by Ministerial Decree of August 31, 2006, which has been repealed by Ministerial Decree of October 23, 2018. The latter Decree currently constitutes the effective regulation for the creation and reconstruction of hydrogen storage and distribution stations for automotive use in Italy.

At European level, on the other hand, in view of the progressive relevance of hydrogen as an alternative fuel, a growing body of EU legislation now regulates the matter. The following is a brief and specific analysis of European and, where present, Italian legislation on hydrogen, structured by topics.

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<sup>8</sup> See Article 1 of the Ministerial Decree of July 4, 2019: “*The purpose of this decree, in line with the European 2020 and 2030 objectives, is to support the production of electricity from plants fuelled by renewable sources, through the definition of incentives and forms of access that promote effectiveness, efficiency and sustainability, both environmental and related to the incentive charges, to an extent appropriate to the achievement of the national objectives and in accordance with the Guidelines on State aid for energy and the environment referred to in the European Commission Communication*”.

➤ Hydrogen production, storage and distribution

**EUROPEAN REGULATION**

Directive 2012/18 ("Seveso Directive")	The Seveso Directive (implemented in Italy by Legislative Decree no. 105 of June 26, 2015) establishes rules aimed at preventing accidents involving specific dangerous substances and limiting their consequences for human health and environment. According to the Seveso Directive, <b>hydrogen</b> is considered a hazardous substance, therefore falling within the scope of the Directive.
Directive 2014/34 ("Atex Directive")	The Atex Directive (implemented in Italy by Legislative Decree no. 85 of May 19, 2016) establishes common, EU-wide rules on the sale and commissioning of equipment and protective systems designed for use in potentially explosive atmospheres. The Atex Directive applies to a wide range of products, including equipment used on fixed offshore platforms for the extraction of hydrocarbons and gas, <b>hydrogen</b> and petrochemical production plants, mines and other areas where a potentially explosive atmosphere may be present.

**ITALIAN REGULATION**

Ministerial Decree October 23, 2018	In Italy, the technical rules for <b>hydrogen</b> storage are set out in the Ministerial Decree of October 23, 2018 " <i>Technical rule on fire prevention for the design, construction and operation of hydrogen distribution systems for automotive use</i> ", where, according to Annex I, the maximum storage pressure envisaged is 1000 bar, and the maximum quantity of hydrogen in storage not exceeding 6000 Nm <sup>3</sup> . Storage facilities must be designed and built in accordance with ISO 19884.
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➤ Transport of hydrogen

**EUROPEAN REGULATION**

Directive 2008/68	Such Directive (implemented in Italy by Legislative Decree no. 35 of January 27, 2010) applies to the carriage of dangerous goods by road, rail or waterway within or between Member States, including loading and unloading, transfer from one type of transport to another and any stops necessary under transport conditions. The Directive also extends these rules to national transport in order to ensure the functioning of the common transport market and makes direct reference in its annexes to the international ADR agreement <sup>9</sup> , which lays down uniform safety rules for the international transport of dangerous goods, including <b>hydrogen</b> .
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<sup>9</sup> The transport of dangerous goods by road is regulated by the international agreement "ADR" ("*European Agreement concerning the International Carriage of Dangerous Goods by Road*"), the text of which is updated every two years. The original agreement was signed in Geneva on September 30, 1957.

<p>Directive 2010/35</p>	<p>This Directive (implemented in Italy by Legislative Decree no. 78 of June 12, 2012) provides rules on transportable pressure equipment in order to improve safety and ensure the free circulation of such equipment within the European Union. The Directive applies to the design, manufacture, conformity assessment and periodic reassessment of transportable cylinders, tubes, cryogenic receptacles and tanks for transporting gas and <b>hydrogen</b>.</p>
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➤ Use of hydrogen as an alternative fuel

EUROPEAN REGULATION	
<p>Directive 2014/94 ("AFID Directive")</p>	<p>The AFID Directive (implemented in Italy by Legislative Decree no. 257 of December 16, 2016) lays down minimum requirements for the construction of alternative fuel infrastructure, including charging stations for electric vehicles and refuelling stations for natural gas and <b>hydrogen</b>, to be implemented through the national policy frameworks of Member States. Article 2 of such AFID Directive defines alternative fuels as "<i>fuels or power sources which serve, at least partly, as a substitute for fossil oil sources in the energy supply to transport and which have the potential to contribute to its decarbonisation and enhance the environmental performance of the transport sector</i>". Such alternative fuels include, <i>inter alia</i>, <b>hydrogen</b>.</p>
<p>Directive 2018/2001 ("RED II Directive") effective as of July 1, 2021</p>	<p>The RED II Directive on the promotion of the use of energy from renewable sources had a strong impact on <b>hydrogen</b> diffusion by setting mandatory national targets for the overall share of energy from renewable sources. In particular, the RED II Directive establishes, in Article 3, a collective obligation for Member States to "<i>ensure that the share of energy from renewable sources in the Union's gross final consumption of energy in 2030 is at least 32%</i>" and requires Member States, in Article 25, to set "<i>an obligation on fuel suppliers to ensure that the share of renewable energy within the final consumption of energy in the transport sector is at least 14% by 2030 (minimum share)</i>". For the purpose of calculating the minimum quota of 14%, it is important that Member States take into account renewable liquid and gaseous fuels of non-biological origin for transport (<i>e.g.</i> renewable hydrogen) even when they are used as intermediate products for the production of conventional fuels (Article 25.1 (a)).</p>

➤ Hydrogen refuelling infrastructure

EUROPEAN REGULATION	
<p>AFID Directive</p>	<p>Member States that decide to include <b>hydrogen</b> refuelling stations in their national policy frameworks should ensure the construction of a universally accessible infrastructure for the refuelling of hydrogen powered motor vehicles (Article 5 of the Directive states that Member States are required to ensure, by December 31, 2025, the availability of an appropriate number of such infrastructures), guaranteeing the circulation of hydrogen powered motor vehicles on all networks established by Member States.</p>

ITALIAN REGULATION	
Legislative Decree no. 257, December 16, 2016	Legislative Decree no. 257, December 16, 2016 (implementing the AFID Directive), establishes a national strategic framework for the development of a network of refuelling/recharging stations for alternative fuels, in order to progressively reduce oil dependence in the transport sector, including <b>hydrogen</b> in the list of alternative fuels. A strategic objective is to achieve an adequate number of refuelling stations by the end of 2025.
Ministerial Decree of October 23, 2018	Such Decree provides for technical standards for the design, construction and operation of hydrogen refuelling stations for mobility use, for external safety distances related to <b>hydrogen</b> supply, compression, storage and distribution equipment. In particular, according to Article 5 of such Decree, hydrogen distribution stations may not be built in totally built-up territorial areas when the average density of building is higher than specific parameters, in areas of expansion of the urban aggregate indicated in the general regulatory plan in which a certain building index is envisaged and in areas designated as public green spaces.

➤ Hydrogen vehicles

EUROPEAN REGULATION	
Regulation 79/2009	This Regulation, concerning the type-approval of hydrogen-powered motor vehicles, amends Directive 2007/46 and establishes harmonized safety requirements for hydrogen-powered vehicles based on an internal combustion engine or a fuel cell. The Regulation also lays down type-approval standards for motor vehicles with hydrogen propulsion and standards for hydrogen components and <b>hydrogen</b> systems.
Regulation 406/2010	<b>Hydrogen</b> vehicles are classified as such under Regulation 406/2010, which implements Regulation 79/2009 on type-approval of hydrogen vehicles. The Regulation 406/2010 contains, <i>inter alia</i> : administrative provisions for the EC type-approval of a vehicle with hydrogen propulsion (Article 2); administrative provisions for the EC type-approval of hydrogen components and systems (Article 3); requirements for the installation of hydrogen components and systems designed to use liquid hydrogen on hydrogen vehicles; requirements for hydrogen containers designed to use compressed (gaseous) hydrogen.

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### ***EU hydrogen strategy***

In July 2020, the European Commission has presented, in a communication<sup>10</sup>, a hydrogen strategy that defines a common European roadmap aimed at boosting the use of hydrogen in the Member States (“**EU July 2020 Communication**”), taking into consideration the objectives of the European Green Deal and the long-term goal of decarbonisation by 2050<sup>11</sup>.

The role of hydrogen is constantly growing, especially in the transport sector, considering that hydrogen may help decarbonise sectors for which electrification is not an efficient solution. In particular, hydrogen fuel cells<sup>12</sup> are emerging as a technology with a high potential that offers considerable energy efficiency and decarbonisation benefits for a range of industries. The main hydrogen strategy actions set out in the EU July 2020 Communication are, *inter alia*: (i) to develop clean and renewable hydrogen; (ii) to propose measures to facilitate the use of hydrogen and its derivatives in the transport sector; (iii) to start the planning of hydrogen infrastructure; (iv) to design enabling market rules to the deployment of hydrogen; and (v) to promote research and innovation in hydrogen technologies.

According to the EU July 2020 Communication, hydrogen may become in the longer-term an option to decarbonise the aviation and maritime sector, through the production of liquid synthetic kerosene or other synthetic fuels. In the long term, the aviation sector may also consider hydrogen-powered fuel cells, which however would require adapted aircraft design or hydrogen-based jet engines. To realise these scenarios, it is essential that the EU sets out a roadmap for the considerable long-term research and innovation efforts.

In order to create a portfolio of investments to increase the production and support the demand for clean hydrogen in Europe, the Commission has set up the Clean Hydrogen Alliance. Such Alliance establishes a cooperation between public and private players as it includes representatives of the industry, of public, regional and local authorities and of European civil society (it currently has 800 members, of which about 30 are Italian<sup>13</sup>).

### ***Strategic role of hydrogen in the PNRR***

Hydrogen, due to its qualities as a fuel, chemical agent, energy carrier and storage, contributes significantly to the transition to a sustainable, low-carbon economy. It has a key and supportive role in the PNRR due to its ability to reinforce climate neutrality objectives.

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<sup>10</sup> Communication from the European Commission dated July 8, 2020 “*A hydrogen strategy for a climate-neutral Europe*”.

<sup>11</sup> Communication from the Commission EU 773/2018, setting the objective to achieve the carbon neutrality by 2050, by increasing energy efficiency and renewable electricity generation, increasing end-use electrification, decreasing oil and coal consumption, decreasing natural gas import and increasing consumption of EU-produced bio-methane and hydrogen.

<sup>12</sup> In 2014, by the Regulation no. 559/2014, the European Council has established the “Fuel Cells and Hydrogen 2 Joint Undertaking”, a public-private partnership, effective until December 31, 2024, which focuses on research and development in the field of fuel cells and hydrogen. Fuel cells, as an efficient conversion technology, and hydrogen, as a clean energy carrier, have great potential to help combat carbon dioxide emissions, reduce dependence on hydrocarbons and contribute to economic growth.

<sup>13</sup> [https://www.snam.it/en/Media/energy-morning/20201109\\_1.html](https://www.snam.it/en/Media/energy-morning/20201109_1.html)

The PNRR hydrogen plan is based, *inter alia*, on the following initiatives:

- (i) production of hydrogen in disused sites: this investment aims to repurpose disused industrial sites to test hydrogen production;
- (ii) creation of a network of hydrogen refuelling stations with up to 40 truck-friendly fuel stations to reduce transport-related emissions;
- (iii) use of hydrogen in rail transport: introducing hydrogen-powered trains in the national rail network. Fuel cell hydrogen propulsion may replace diesel in cases where track electrification is not economically feasible. In November 2020, FNM and Trenord announced the “H2iseO” project aimed at creating Italy’s first “Hydrogen Valley” by 2023. The initiative envisages both the purchase of new hydrogen-powered trains – replacing the diesel trains currently in use – and the construction of facilities for their refuelling. The estimate for this investment is over Euro 160 million. In order to apply the best methods of supplying and refuelling hydrogen from renewable sources and from material recovery to fuel the new hydrogen trains, on December 29, 2020, FNM, A2A and Snam signed a memorandum of understanding to boost the development of green hydrogen mobility in Lombardy. In particular, these companies will collaborate on the creation of a production and refuelling system for the new clean energy trains with the aim of extending this green solution to local public transport and freight logistics by 2025;
- (iv) research on hydrogen: improving the knowledge of hydrogen implementation in production, storage and distribution.

### ***Role of hydrogen at international level***

At the international level, to support the emergence of a hydrogen ecosystem, the Mission Possible Partnership has been recently presented at the World Economic Forum in Davos. It is a coalition of 400 companies (including Arcelor Mittal, Shell, Maersk, Amazon and Microsoft) committed to entering, by 2024, into climate action agreements with investors, suppliers, customers and competitors to boost the decarbonisation of the economy. The ultimate goal of this climate pact is zero emissions by 2050.

### **2.3 Sustainable mobility**

A specific line of action in the PNRR is also aimed at the development and growth of sustainable mobility through the strengthening of infrastructure for rapid mass transport and of cycle paths and at the renewal of local public transport vehicles.

The line of action includes, *inter alia*, the following projects:

- (i) creation and maintenance of cycling networks and cycle-pedestrian routes;
- (ii) signing of development contracts for companies in the national network;
- (iii) buses designed to implement industrial transformation projects;

- (iv) incentivizing, through tax credit, the purchase/construction of equipment that allows more efficient movement;
- (v) launch of calls for tender;
- (vi) encouraging early adoption systems to assist small and medium-sized enterprises in converting to new technologies (e.g. electric or hybrid vehicles, eco-design, etc.);
- (vii) accelerating the implementation of the National Strategic Plan for sustainable mobility.

The PNRR also aims to set up, by 2026, an “infrastructure system” for sustainable mobility, designed in particular to:

- (i) develop Italy’s communication lines, with a particular focus on railway lines (also due to the development of fuel cells in recent years); moreover, it is envisaged that FSC<sup>14</sup> funds may be used to invest in improving the safety of the more at-risk communication lines (e.g. viaducts or road bridges);
- (ii) aim at the environmental and competitive development of the Italian port system, by combining innovation and the position of southern Italian ports in order to promote tourism and maritime trade.

As a further proof that sustainable mobility is an increasingly important issue, it is worth mentioning a recent (February 2021) agreement between Eni and Be Charge, dedicated to the diffusion of charging infrastructures for electric mobility. This agreement provides for the possibility, for owners of electric vehicles, to use Be Charge’s charging stations powered by Eni at a discounted price, with electricity produced by Eni using 100% renewable sources.

Another sustainable mobility project is the Snam’s project financed by the grant from the Connecting Europe Facility. The project, in which Cassa Depositi e Prestiti is an implementing partner, envisages the development of eight refuelling stations for liquefied natural gas and liquid bio-methane; its objective is to achieve “*the strengthening and modernisation of the infrastructure network and support for energy transition and for the fight against climate change.*”

### 3. NEXT STEPS

The Italian Executive, following the new Draghi Government’s appointment, is currently working on the PNRR that has been proposed in January by the Conte Government. According to the new government, the recovery and resilience plan shall be a political and economic document aimed at meeting the parameters of the European Union. Such plan shall describe the measures and reforms, the objectives to be achieved, the costs to be incurred and the impact that these measures will have on the entire economic system. Recently, among other things, the European Union announced the criteria that Member States must meet when drawing up national recovery and resilience plans to access European funds.

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<sup>14</sup> <http://www.programmazioneeconomica.gov.it/2021/01/15/fondo-per-lo-sviluppo-e-la-coesione-3/> – Fund for Development and Cohesion, the Italian Government’s funding instrument for the country’s under-utilised areas.

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On February 18, 2021, Regulation 2021/241, establishing the recovery and resilience facility, has been published in the Official Journal of the EU, defining its objectives, its funding and the rules for providing the funding. As already noted, governments are required to present their recovery and resilience plans to the European Commission by April 30, 2021 in order to receive the financial contribution established by the recovery and resilience facility.

The Commission must evaluate the PNRR prepared by the Member State within two months from the official submission and formulate a proposal for the Council's implementing decision. In making such evaluation, the Commission shall act in close cooperation with the Member State, making remarks or requesting additional information.

In evaluating the plan and determining the amount to be allocated to each Member State, the Commission shall take into account available analytical information about the State. The Commission shall assess the relevance, effectiveness, efficiency and coherence of the recovery and resilience plan and, for that purpose, shall take into account the criteria and the evaluation rating scheme in accordance with Annex V of the Regulation entitled "Assessment guidelines for the Facility". Subsequently, upon a proposal from the Commission, the Council approves, by means of an implementing decision, the evaluation of the plan submitted by the Member State.

Pursuant to Article 12 of Regulation 2021/241, the funds will be fully released to Member States by the end of 2023: 70% by the end of 2022, the remaining 30% in 2023. A first tranche of 13% may be immediately requested by the Member State, in the form of pre-financing payment, subject to the adoption by the Council of the implementing decision related to the plan by December 31, 2021. The investments planned by the Member States, based on the funds obtained, shall be implemented by 2026. According to initial sources, the funds available for Italy should amount to approximately Euro 209 billion, broken down into Euro 81.4 billion in grants and Euro 127.4 billion in loans.

While waiting for Recovery Fund financing resources, in order to implement innovations in the ecological transition sector, the European Commission, in December 2020, within the framework of the European "Innovation Fund 2020-2030<sup>15</sup>" programme, launched the "Small-scale projects" call aimed at small-scale projects focused on clean energy technologies that intend to bring industrial solutions for the decarbonization of Europe to the market. According to the call, projects with a total cost between Euro 2.5 million and Euro 7.5 million, aiming to develop innovative technologies and products on renewable energy, energy-intensive industry and carbon capture, utilization and storage, are considered eligible. Such projects should contribute to Europe's green recovery, encourage companies to invest in clean energy, stimulate economic growth through the creation of new employments in line with future needs and strengthen European technological leadership on a global scale.

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<sup>15</sup> It is a fund regulated by the European Union that makes available for the decade 2020-2030 a liquidity equal to Euro 10 billion whose objective is to help companies invest in clean energy and industry to stimulate economic growth, create local employments and strengthen European technology leadership on a global scale.

Such “*Innovation Fund*” can be combined with other European financing funds, including the European framework program for research and innovation for the period 2021-2027 called “Horizon Europe”, promoted in 2020 by the European Commission and consisting of approximately Euro 84.9 billion financed by the common European budget and the Recovery Fund. Horizon Europe incorporates research and innovation missions to increase the effectiveness of funding by pursuing defined objectives, including, *inter alia*, the fight against climate change, sustainable development from the economic and territorial point of view, improving competitiveness and, in general, the growth of all EU countries. The objective is to ensure that Europe produces world-class science and technology, removes barriers to innovation and facilitates collaboration between the public and private sectors to find solutions to social challenges.

Finally, Italy also has taken steps – through the bonuses provided by the Transition Plan 4.0<sup>16</sup>, strengthened by the 2021 Budget Law (Law no. 178/2020) – to boost the post-Covid-19 economic recovery in the ecological transition sector, providing for a 15% tax credit (up to Euro 2 million) to enterprises that invest in technological innovation activities aimed at the creation of new or substantially improved products or production processes, to achieve the goal of ecological transition or 4.0 digital innovation.

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<sup>16</sup> <https://www.mise.gov.it/index.php/it/transizione40>