

# REPORT REVIEW

## The Republic of Italy BTP Green Allocation and Impact Report

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BTP Green Allocation and Impact Report the Republic of Italy

15 June 2023

### VERIFICATION PARAMETERS

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<b>Type(s) of reporting</b>	<ul style="list-style-type: none"><li>Green Allocation and Impact Report</li></ul>
<b>Relevant standard(s)</b>	<ul style="list-style-type: none"><li>Harmonised Framework for Impact Reporting (HFIR), updated June 2022, as administered by International Capital Market Association (ICMA)</li><li>The Republic of Italy's BTP Green Allocation and Impact Report (as of June 14, 2023)</li></ul>
<b>Scope of verification</b>	<ul style="list-style-type: none"><li>The Republic of Italy's Framework for the Issuance of Sovereign Green Bonds (as of February 25, 2021)</li><li>Bond identification: IT0005508590/ April 30, 2035 (EUR 7.94 billion)</li></ul>
<b>Lifecycle</b>	<ul style="list-style-type: none"><li>Post-issuance verification</li></ul>
<b>Validity</b>	<ul style="list-style-type: none"><li>As long as no changes are undertaken by the Issuer to its BTP Green Allocation and Impact Report as of June 14, 2023</li></ul>

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## SCOPE OF WORK

The Republic of Italy (“the Issuer”) commissioned ISS Corporate Solutions (ICS) to provide a Report Review<sup>1</sup> on its BTP Green Allocation and Impact Report by assessing:

1. The alignment of the Republic of Italy’s BTP Green Allocation and Impact Report with the commitments set forth in The Republic of Italy Framework for the Issuance of Sovereign Green Bonds (as of February 25, 2021).
2. The Republic of Italy’s BTP Green Allocation and Impact Report - benchmarked against Harmonised Framework for Impact Reporting (HFIR) updated as of June 2022.
3. The disclosure of proceeds allocation and soundness of reporting indicators – whether the impact metrics align with best market practices and are relevant to the Green Bonds issued.

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<sup>1</sup> A limited or reasonable assurance is not provided on the information presented in The Republic of Italy’s BTP Green Allocation and Impact Report. A review of the use of proceeds’ allocation and impact reporting is solely conducted against ICMA’s Standards (Green Bond Principles) core principles and recommendations where applicable, and the criteria outlined in the underlying Framework. The assessment is solely based on the information provided in the allocation and impact reporting. The Issuer [The Republic of Italy] is responsible for the preparation of the report including the application of methods and internal control procedures designed to ensure that the subject matter information is free from material misstatement.

## ASSESSMENT SUMMARY

REVIEW SECTION	SUMMARY	EVALUATION
<p><b>Part 1.</b></p> <p><b>Alignment with the Issuer's commitments set forth in the Framework</b></p>	<p>The Republic of Italy's BTP Green Allocation and Impact Report meets the Issuer's commitments set forth in the Framework for the Issuance of Sovereign Green Bonds. The proceeds have been used to (re)finance Renewable Electricity and Heat, Energy Efficiency, Transport, Pollution Prevention and Control, and Circular Economy, Protection of the Environment and Biological Diversity, and Research in accordance with the eligibility criteria defined in the Framework except for the project fiscal incentives to improve building efficiency, called "Ecobonus".</p>	<p><b>Aligned</b> <i>(however, proceeds have also been allocated to the project "Ecobonus", which does not fully meet the criteria originally set in the framework)</i></p>
<p><b>Part 2.</b></p> <p><b>Alignment with the Harmonised Framework for Impact Reporting (HFIR)</b></p>	<p>The Republic of Italy's BTP Green Allocation and Impact Report is in line with ICMA's Harmonised Framework for Impact Reporting. The Issuer follows core principles and where applicable key recommendations.</p> <p>Allocation of proceeds is disclosed at a project category level. The report was produced on an annual basis and includes impact indicators for most of the financed projects.</p>	<p><b>Aligned</b></p>
<p><b>Part 3.</b></p> <p><b>Disclosure of proceeds allocation and soundness of reporting indicators</b></p>	<p>The allocation of the bond's proceeds has been disclosed, with a detailed breakdown across different eligible project categories as proposed in the Framework<sup>2</sup>.</p> <p>The Republic of Italy's Framework for the Issuance of Sovereign Green Bonds has adopted an appropriate methodology to report the impact generated by providing comprehensive disclosure on data sourcing, calculations methodologies and granularity reflecting best market practices.</p>	<p><b>Positive</b></p>

<sup>2</sup> The assessment is based on the information provided in the Issuer's report. The Issuer is responsible for the preparation of the report including the application of methods and procedures designed to ensure that the subject matter information is free from material misstatement.

## REPORT REVIEW ASSESSMENT

### PART I: ALIGNMENT WITH COMMITMENTS SET FORTH IN THE FRAMEWORK FOR THE ISSUANCE OF SOVEREIGN GREEN BONDS

The following table evaluates the BTP Green Allocation and Impact Report against the commitments set forth in the Republic of Italy’s Framework, which are based on the core requirements of the Green Bond Principles as well as best market practices.

GBP	OPINION	ALIGNMENT WITH COMMITMENT
1. Use of Proceeds	<p>The Republic of Italy confirms to follow the Use of Proceeds’ description provided by the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds except for alignment with the defined project categories.</p> <p>The Issuer’s green categories align with the project categories except for the project fiscal incentives to improve building efficiency, called “Ecobonus”<sup>3</sup>. For all other green categories, they are in accordance with the eligibility criteria set in the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds.</p> <p>The Issuer confirms that eligible expenses were selected from a period between three years before the bond issuance. Environmental benefits at the category level are described and quantified. Moreover, the Issuer has excluded any harmful project categories as committed in the Framework.</p>	<p>✓</p> <p><i>(with only one exception: the project Fiscal incentives to improve building efficiency, called “Ecobonus”)</i></p>
2. Process for Project Evaluation and Selection	<p>The Republic of Italy confirms to follow the Process for Project Evaluation and Selection description provided by the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds. The report is in line with the initial commitments set in the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds.</p> <p>The Issuer confirms that the Eligible Green Projects were designated by the Interministerial Committee composed of representatives of various Italian Ministries.</p>	<p>✓</p>

<sup>3</sup> With regard to the category Energy Efficiency, the project financed (Fiscal incentives to improve building efficiency, called “Ecobonus”) is not in line with the criteria “Investment expenditures that bring at least two levels improvement on the Italian energy efficiency scale”. This incentive is targeted at interventions such as building insulation, fixtures upgrade, solar panels installation. After the intervention, it is required to provide a new EPC but the increase of two levels is not mandatory. The Issuer has reported the environmental benefits that the financed “Ecobonus” projects have achieved.

<p><b>3. Management of Proceeds</b></p>	<p>The Republic of Italy confirms to follow the Process for Management of Proceeds description provided by The Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds. The report is in line with the initial commitments set in the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds:</p> <p>The proceeds collected are equal to the amount allocated to eligible projects, with no exceptions. The proceeds are tracked in an appropriate manner and attested in a formal internal process.</p> <p>Moreover, the proceeds have been fully allocated within 24 months after the issuance, and any expenditures that were no longer eligible were replaced within 12 months.</p>	<p>✓</p>
<p><b>4. Reporting</b></p>	<p>The Republic of Italy Impact Report is coherent with the Reporting description provided by The Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds. The report is in line with the initial commitments set in the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds:</p> <p>The sections “Allocation of resources” and “Environmental impact assessment of green projects” of the BTP Green Allocation and Impact Report comply with the pre-issuance commitment expressed in the framework. The report is intended to be publicly available.</p> <p><i>Further analysis of this section is available in Part III of this report.</i></p>	<p>✓</p>
<p><b>5. Verification</b></p>	<p>The Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds has received a Second Party Opinion (SPO).</p>	

## PART II: ASSESSMENT AGAINST THE ICMA HARMONISED FRAMEWORK FOR IMPACT REPORTING

Reporting is a core component of the GBP and transparency is of particular value in communicating the expected and/or achieved impact of projects in the form of an annual reporting. Green bond Issuers are required to report on both the use of green bond proceeds, as well as the environmental impacts at least on an annual basis until full allocation or maturity of the bond. Harmonised Framework for Impact Reporting (HFIR) has been chosen as benchmark for this analysis as it represents the most widely adopted standard.

The table below evaluates the Republic of Italy BTP Green Allocation and Impact Report against ICMA Harmonised Framework for Impact Reporting (HFIR).

CORE PRINCIPLES		
ICMA HFIR	BTP Green Allocation and Impact Report	ASSESSMENT
Reporting on an annual basis	The Republic of Italy has reported on an annual basis from issuance and all the proceeds have been fully allocated. The report will be available on the Italian Ministry of Economy and Finance's website <sup>4</sup> .	✓
Illustrating the environmental impacts or outcomes	<p>The assessment and measurement of the impacts generated by the Republic of Italy's Green Bonds covered the following areas:</p> <ol style="list-style-type: none"> <li>a. <u>Renewable Electricity and Heat</u> <ul style="list-style-type: none"> <li>▪ Fiscal incentives focused on the development of renewable and other low-carbon energies: number of users and quantities of electricity involved (kWh) and tonnes of CO<sub>2</sub> avoided emissions.</li> </ul> </li> <li>b. <u>Energy Efficiency</u> <ul style="list-style-type: none"> <li>▪ Fiscal incentives to improve building efficiency: Energy saving (GWh/y) and CO<sub>2</sub> avoided emissions.</li> </ul> </li> <li>c. <u>Transport</u> <ul style="list-style-type: none"> <li>▪ Incentives for rail freight transportation: estimated increased use of rail for goods transportation, tonnes of CO<sub>2</sub>eq avoided per year, air pollutants (PM2.5, NMVOC,</li> </ul> </li> </ol>	✓

<sup>4</sup> Italian Ministry of Economy and Finance's website:

[https://www.dt.mef.gov.it/en/debito\\_pubblico/emissioni\\_titoli\\_di\\_stato\\_interni/comunicazioni\\_emissioni\\_btp\\_green/post\\_emissioni/](https://www.dt.mef.gov.it/en/debito_pubblico/emissioni_titoli_di_stato_interni/comunicazioni_emissioni_btp_green/post_emissioni/)

- SO<sub>2</sub>, and NO<sub>x</sub>) avoided, and monetization of minor total externalities<sup>5</sup>
- Subways: national endowment of urban and suburban railway infrastructure (km of network), passenger traffic (millions of passenger-km)
  - Railway infrastructures and HS-HC lines: estimated future emissions avoided (tCO<sub>2</sub>eq), and future air pollutants (PM<sub>2.5</sub>, NO<sub>x</sub>, NMVOC, SO<sub>2</sub>) reduced (tons/year), decrease in road traffic (million of vehicle-km/ year for the urban or subway or airport section), scrap materials management (m<sup>3</sup> and % of material reused)
- d. Pollution Prevention and Control, and Circular Economy
- Integrated Waste Cycle: recycling rate, number of waste treatment plant per type, % of waste sent to landfills out of total regional municipal waste
  - Soil pollution: number of sites surveyed for status of contamination
  - Air pollution: improvement of % of Italian territory of air pollution (NO<sub>2</sub>, ozone, PM<sub>10</sub>, PM<sub>2.5</sub>) average annual limit that is respected compared to 2013
  - Water pollution: Volumes of litter stranded, Clean Coast Index (CCI), Quality of marine environment in terms of concentration of chlorophyll-phytoplankton and PREI index (Posidonia Rapid Easy Index)
- e. Protection of the Environment and Biological Diversity
- Water infrastructure: catchment area efficiency, number of residents without sewage service and purification service which could be mitigated; storage capacity of water resources in large dams (m<sup>3</sup>);

<sup>5</sup> Savings for society linked to lower road traffic, reduction of greenhouse gases, air and noise pollution, accidents and costs related to congestion.



	<ul style="list-style-type: none"> <li>▪ Marine protected areas, national parks and state nature reserves: % protection coverage of key biodiversity area surveyed, hectares of wooded area, number of national parks and regional parks, and the respective area (million hectares) and % of the territory, number of protected marine areas (EUAP) and submerged parks</li> <li>▪ Environmental protection, certifications and protection of biodiversity: number of EU Ecolabel licenses and products</li> <li>▪ International cooperation for environmental protection: scenario projections of CO<sub>2</sub>eq emissions avoided, number of protected marine species (cetacean)</li> </ul> <p>f. <u>Research:</u></p> <ul style="list-style-type: none"> <li>▪ number of projects financed, qualitative descriptions of the projects, environmental impact of research and development programmes in medium term (tonnes of CO<sub>2</sub>eq avoided per year)</li> </ul>	
<p>ESG Risk Management</p>	<p>The Issuer has a multilevel approach to evaluate the expenditure items allocated based on the technical screening criteria of the EU Taxonomy (i.e., mitigation and adaptation to climate change), also including the other four objectives: sustainable use and protection of water and marine resources, transition towards a circular economy, prevention and reduction of pollution and protection and restoration of biodiversity and ecosystems. The exercise of simplified application of the EU Taxonomy is reported in the Green Allocation and Impact Report.</p> <p>Moverover, the Issuer confirms that the projects financed comply with the ESG management by examples of railway infrastructure and HS-HC lines investment, where the environmental design identified significant environmental aspects related to construction work and corresponding mitigation measures and environmental monitoring activities.</p>	<p>✓</p>
<p>Allocation of proceeds - Transparency on the currency</p>	<p>Allocated proceeds have been reported in EUR. Projects on which proceeds have been allocated have been disclosed.</p>	<p>✓</p>

## RECOMMENDATIONS

ICMA  
HFIR

BTP Green Allocation and Impact Report

ASSESSMENT

Define and disclose period and process for Project Evaluation and Selection	<p>The entirety of proceeds has been allocated to Green Assets. The Issuer has also reported on the removed and added projects of the portfolio during the reporting period.</p> <p>The Issuer followed a transparent process for selection and evaluation of Eligible Green Projects. Projects financed and/or refinanced through the Green Bonds issued under Framework for the Issuance of Sovereign Green Bonds were evaluated and selected based on compliance with the Eligibility Criteria as laid out in the Framework except for the project fiscal incentives to improve building efficiency, called “Ecobonus”.</p>	✓
Disclose total amount of proceeds allocated to eligible disbursements	A total of EUR 7.94 billion has been raised through Issuer’s Green Bond. All of the proceeds have been allocated to Green Assets.	✓
Formal internal process for the allocation of proceeds and to report on the allocation of proceeds	The Issuer followed a transparent process for the allocation of proceeds.	✓
Report at project or portfolio level	The BTP Green Allocation and Impact Report includes the total amount of proceeds allocated per eligible project category, project type within categories and per year of investment.	✓
Describe the approach to impact reporting	The Issuer identifies the specific project type within categories and clearly defines, for each project type, the total project’s allocated proceeds.	✓
Report the estimated lifetime results and/or project economic life (in years)	The Issuer has reported the useful life for each type of intervention for Energy Efficiency.	✓
Ex-post verification of specific projects	The Issuer samples ex-post verification of Renewable Energy and Energy Efficiency projects and includes relevant methodologies, as well as results (tonnes of CO <sub>2</sub> avoided annually) in the reporting.	✓

<p>Report on at least a limited number of sector specific core indicators</p>	<p>The Republic of Italy reports on sector specific core indicators for most of the project types financed:</p> <ul style="list-style-type: none"> <li>▪ Renewable Electricity and Heat: quantities of electricity involved (kWh) and tonnes of CO<sub>2</sub> avoided emissions</li> <li>▪ Energy Efficiency: energy saving (GWh/y) and CO<sub>2</sub> avoided emissions</li> <li>▪ Transport: tonnes of CO<sub>2</sub>eq avoided per year, air pollutants (PM<sub>2.5</sub>, NMVOC, SO<sub>2</sub>, and NO<sub>x</sub>) avoided and passenger traffic (millions of passenger-km), decrease in road traffic (million of vehicle-km/year)</li> <li>▪ Pollution Prevention and Control, and Circular Economy: recycling rate, number of waste treatment plant per type, % of waste sent to landfills out of total regional municipal waste</li> <li>▪ Protection of the Environment and Biological Diversity: hectares of wooded area, area (million hectares) and % of the territory, scenario projections of CO<sub>2</sub>eq emissions avoided, number of protected marine species (cetacean)</li> </ul>	<p>✓</p>
<p>If there is no single commonly-used standard, Issuers may follow and disclose their own calculation methodologies</p>	<p>The Issuer elaborated its own methodologies to calculate or estimate the impacts of the financed projects. The calculations are transparently disclosed in the BTP Green Allocation and Impact Report.</p>	<p>✓</p>
<p>Disclosure on the conversion approach (if applicable)</p>	<p>Where needed, the Issuer uses standard conversion factors and includes appropriate disclosure of the conversion approach in the report. These factors are taken from Italian nationwide database by Italian Institute for Environmental Protection and Research (ISPRA), e.g. National Inventory Report.</p>	<p>✓</p>
<p>Projects with partial eligibility</p>	<p>The project Fiscal incentives to improve building efficiency, called “Ecobonus”, does not meet the eligibility criteria set in the framework. The Issuer has transparently reported on the matter and the project can still be considered in line with the ICMA GBP.</p>	<p>✓</p>
<p>When the expected impacts of different project components may not be reported separately, Issuers</p>	<p>The impact of the Republic of Italy’s projects is reported separately per category and sub category on an aggregated basis.</p>	<p>-</p>

may use (and disclose) the attribution approach		
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#### OPINION

*The Republic of Italy **follows** Harmonised Framework for Impact Reporting (HFIR)'s core principles and key recommendations. The Issuer provides transparency on the level of expected reporting as well as on the frequency, scope and duration, aligned with best practices.*

## PART III: DISCLOSURE OF PROCEEDS ALLOCATION AND SOUNDNESS OF THE IMPACT REPORTING INDICATORS

### Use of Proceeds Allocation

Use of Proceeds allocation reporting is key to put the impacts into perspective with the number of investments allocated to the respective Use of Proceeds' categories.

The Use of Proceeds allocation reporting occurred on an annual basis from the issuance, after full allocation of the proceeds.

This is the second year of allocation reporting and 100% of the proceeds have been allocated in 2022. In 2022 the proceeds were 100% allocated and in September 2022 the Republic of Italy issued a new BTP Green with maturity April 2035. Use of Proceeds allocation reporting occurred within the regular annual cycle from the issuance.

### Proceeds allocated to eligible projects/assets

The proceeds' allocation is broken down by the project category level, and by type of project. The Issuer has provided details about the type of projects included in the portfolio. The project categories eligible are Renewable Electricity and Heat, Energy Efficiency, Transport, Pollution Prevention and Control and Circular Economy, Protection of the Environment and Biological Diversity and Research. The proceeds are allocated to public agencies, public and private companies, local authorities, education and research institutes, and households.

The report provides information about projects which were removed from the allocation register, due to the risk of double counting for projects fed with resources from EU, or critics regarding monitoring and reporting.

The allocation report section of the BTP Green Allocation and Impact Report of The Republic of Italy aligns with best-market practices by providing information on:

- The number of projects (re)financed
- The total amount of proceeds in million euros (divided per project category, project type, expenditure year)
- Description of the projects (re)financed

## Impact Reporting Indicators

The table below presents an independent assessment of the Republic of Italy's report and disclosure on the output, outcome, and/or impact of projects/assets using impact indicators.

ELEMENT	ASSESSMENT
<p><b>Relevance</b></p>	<p>The impact indicators chosen by the Issuer for this bond are the following:</p> <ol style="list-style-type: none"> <li>a. <u>Renewable Electricity and Heat</u> – Fiscal incentives focused on the development of renewable and other low-carbon energies: number of users and quantities of electricity involved (kWh), and CO<sub>2</sub> avoided emissions</li> <li>b. <u>Energy Efficiency</u> – Fiscal incentives to improve building efficiency: CO<sub>2</sub> avoided emissions and energy saving (GWh/y).</li> <li>c. <u>Transport</u>:                      Incentives for rail freight transpiration: estimated increased use of rail for goods transportation, tonnes of CO<sub>2</sub>eq avoided per year, air pollutants (PM<sub>2.5</sub>, NMVOC, SO<sub>2</sub>, and NO<sub>x</sub>) avoided, and monetization of minor total externalities                      Subways: national endowment of urban and suburban railway infrastructure (km of network), passenger traffic (millions of passenger-km)                      Railway infrastructures and AV-AC lines: estimated future emissions avoided (tCO<sub>2</sub>eq), and future air pollutants (PM<sub>2.5</sub>, NO<sub>x</sub>, NMVOC, SO<sub>2</sub>) reduced (tons/year), decrease in road traffic (million of vehicle-km/ year), scrap materials management (m<sup>3</sup> and % of material reused)</li> <li>d. <u>Pollution Prevention and Control, and Circular Economy</u>:                      Integrated Waste Cycle: recycling rate (measured as % recycled), number of waste treatment plant per type, % of waste sent to landfills out of total regional municipal waste.                      Soil pollution: number of sites surveyed for status of contamination                      Air pollution: improvement of % of Italian territory of air pollution (NO<sub>2</sub>, ozone, PM<sub>10</sub>, PM<sub>2.5</sub>) average annual limit that is respected compared to 2013.                      Water pollution: volumes of litter stranded<sup>6</sup>, Clean Coast Index (CCI), quality of marine environment in terms of concentration of chlorophyll- phytoplankton and Posidonia Rapid Easy Index (PREI) index.</li> <li>e. <u>Protection of the Environment and Biological Diversity</u>:                      Water infrastructure: catchment area efficiency, number of residents without sewage service and purification service which could be mitigated; storage capacity of water resources in large dams (m<sup>3</sup>)</li> </ol>

<sup>6</sup> Calculated as litter of waste found per meter of beach.

	<p>Protected marine areas, national parks and state natural reserves: % protection coverage of key biodiversity area surveyed, hectares of wooded area, number of national parks and regional parks, and the respective area (million hectares) and % of the territory, number of protected marine areas (EUAP) and submerged parks, CO<sub>2</sub> avoided emissions<sup>7</sup></p> <p>Environmental protection, certifications and protection of biodiversity: number of EU Ecolabel licenses and products</p> <p>International cooperation for environmental protection: scenario projections of CO<sub>2</sub>eq emissions avoided, number of protected marine species (cetacean)</p> <p>f. <u>Research</u>: number of projects financed; qualitative descriptions of the projects, CO<sub>2</sub>eq avoided per year</p> <p>These indicators are qualitative and material to the Use of Proceeds categories financed through the bonds and in line with the Suggested Impact Reporting metrics for Renewable Energy, Energy Efficiency, and Transport, by the ICMA Harmonized Framework for Impact Report. This aligns with best market practices.</p> <p>For the project categories Pollution Prevention and Control, and Circular Economy, Protection of the Environment and Biological Diversity, and Research the Republic of Italy have chosen alternative indicators to the ICMA Harmonized Framework for Impact Report.</p>
<p><b>Data sourcing and methodologies of quantitative assessment</b></p>	<p>For the impact indicators, the Republic of Italy uses internal methodologies and sourcing data from the Interministerial Committee<sup>8</sup>. This Committee is formed by 16 members from the Representatives of: Presidency of the Italian Council of Ministers; Ministry of Economy and Finance; Ministry of Infrastructure and Transport; Ministry of Environment and Energy Security; Ministry of Enterprise and Made in Italy; Ministry of Agriculture, Food Sovereignty and Forests; Ministry of University and Research; and Ministry of Culture. For data collection and data processing, the Ministries participating in the Committee collaborate with the structure of the Treasury Department at the Ministry of Economy and Finance.</p> <p>The data collection is carried out by the Institute for Environmental Protection and Research (ISPRA), that collect data through Agencies form the National System for the Protection of the Environment (SNPA), and the Copernicus Programme.</p> <p><u>Renewable energy and heat</u>: CO<sub>2</sub> avoided emissions (The emissions avoided are calculated in terms of the product of electricity generated</p>

<sup>7</sup> Plants extract CO<sub>2</sub> from the atmosphere and store it in the leaves, trunks and stems and roots, on average a tree in a temperate climate located in the city can absorb between 10 and 30kg CO<sub>2</sub>/year. Also, marine areas absorb carbon dioxide, with a global absorption capacity of approximately 25% of the CO<sub>2</sub> emitted annually by human activities.

<sup>8</sup> Interministerial Committee, [BTP Green Inter-Ministerial Committee - MEF Department of Treasury](https://www.mef.gov.it/interministerial-committee)

from renewable sources by the average annual emission factor from fossil sources).

Energy efficiency: CO<sub>2</sub> avoided emissions (CO<sub>2</sub>eq avoided during the period 2018-2020 which was when the measure was financed with the green bonds, to estimate the indicator data collected and published by ISPRA was used).

Transport: Incentives for rail freight transpiration: estimated increased use of rail for goods transportation (comparing the use of rail before the STFM measure and after during the period 2014-2022). Tonnes of CO<sub>2</sub>eq avoided per year (assuming a projection of traffic levels during 2021-2022 and calculating the emissions using the unitary rail-road differential of the average emission factors per tonne-km). Air pollutants (PM<sub>2.5</sub>, NMVOC, SO<sub>2</sub>, and NO<sub>x</sub>) avoided (calculated multiplying the average emissions for the annual variations, estimated to decrease, of vehicle-km and tonne-km on the road, net of the pollution produced by rail transport). Monetization of minor total externalities (the monetization is calculated using a differential between rail and road equal to 3.1 €/tons.km, attributing environmental and social impacts).

Subways: national endowment of urban and suburban railway infrastructure (km of network of Italy compared to European peers), passenger traffic (millions of passenger-km during 2019-2021).

Railway infrastructures and HS-HC lines: estimated future emissions avoided (tCO<sub>2</sub>eq) calculated as the difference between the climate-changing emissions avoided (deriving from the reduction of road, air and ship transport) and the climate-changing emissions generated by the increase in train circulation, and future air pollutants (PM<sub>2.5</sub>, NO<sub>x</sub>, NMVOC, SO<sub>2</sub>) reduced (tons/year) (contribution deriving from the reduction in the circulation of vehicles on the road (cars, heavy vehicles and buses).

#### Pollution Prevention and Control, and Circular Economy:

Integrated Waste Cycle: recycling rate (% recycled of industrial waste, packaging waste and urban waste), number of waste treatment plant per type, % of waste sent to landfills out of total regional municipal waste in 2 Air pollution: improvement of % of Italian territory of air pollution (NO<sub>2</sub>, ozone, PM<sub>10</sub>, PM<sub>2.5</sub>) average annual limit that is respected compared to 2013.


Water pollution: volumes of litter stranded (litter per meters of beach), Clean Coast Index (CCI), quality of marine environment in terms of concentration of chlorophyll- phytoplankton (the indicator is based on the estimate of phytoplankton biomass, providing a measure of the main photosynthetic pigment present in microalgae, as a proxy for the








	<p>perturbations of the environmental quality of marine waters) and Posidonia Rapid Easy Index (PREI) index.</p> <p><u>Protection of the Environment and Biological Diversity:</u></p> <p>Protected marine areas, national parks and state natural reserves: CO<sub>2</sub> avoided emissions (estimated by ISPRA in million tonnes by 2020 considering the conventions, programs and agreements implemented by Italy to prevent, control and reduced air pollution and greenhouse gas emissions), and km<sup>2</sup> of land and sea protected.</p> <p><u>Research:</u> number of projects financed (estimated positive impact of research and development programs in reduction of CO<sub>2</sub> emissions and other climate-altering gases); qualitative descriptions of the projects.</p>
<b>Baseline selection</b>	<p>Some impact indicators are compared to baseline data from processing of ENEA Report, report from the Ministry and ISPRA report. For Energy Efficiency, Transport, Pollution Prevention, and Protection of the Environment and Biological Diversity, baseline years 2018-2020, 2014-2022, 2013 and 2020 are used respectively. In this sense, the report is in line with the suggestion of the ICMA Harmonized Framework for Impact Reporting.</p>
<b>Scale and granularity</b>	<p>The impact data is presented at the Use of Proceed category level for the indicators.</p>

### High-level mapping of the impact indicators with the UN Sustainable Development Goals

Based on the project categories financed and refinanced by the bonds as disclosed in the Issuer's BTP Green Allocation and Impact Report, the impact indicator(s) adopted by the Republic of Italy for its Sovereign Green Bonds can be mapped to the following SDGs, according to the ICMA "A High - Level Mapping to the Sustainable Development Goals"<sup>9</sup>.

IMPACT INDICATORS	SUSTAINABLE DEVELOPMENT GOALS
<p><b><u>Renewable electricity and heat</u></b></p> <p>Fiscal incentives focused on the development of renewable and other low-carbon energies:</p> <ul style="list-style-type: none"> <li>number of users</li> <li>quantities of electricity involved (KWh)</li> <li>CO<sub>2</sub> avoided emissions</li> </ul>	







<sup>9</sup> [ICMA's Mapping-SDGs-to-Green-Social-and-Sustainability-Bonds](#)



<p><b><u>Energy efficiency</u></b> <b><u>Fiscal incentives to improve building efficiency:</u></b></p> <ul style="list-style-type: none"> <li>energy saving (GWh/y)</li> <li>CO<sub>2</sub> avoided emissions</li> </ul>	
<p><b><u>Transport</u></b> <b><u>Incentives for rail freight transportation:</u></b></p> <ul style="list-style-type: none"> <li>monetization of minor total externalities<sup>10</sup></li> </ul>	
<p><b><u>Transport</u></b> <b><u>Incentives for rail freight transportation:</u></b></p> <ul style="list-style-type: none"> <li>tonnes of CO<sub>2</sub>eq avoided per year</li> <li>estimated increased use of rail for goods transportation</li> </ul> <p><b><u>Railway infrastructures and HS-HC lines:</u></b></p> <ul style="list-style-type: none"> <li>estimated future emissions avoided (tCO<sub>2</sub>eq)</li> <li>tonnes of CO<sub>2</sub>eq reduced per year</li> </ul>	
<p><b><u>Transport</u></b> <b><u>Subways:</u></b></p> <ul style="list-style-type: none"> <li>national endowment of urban and suburban railway infrastructure (km of network)</li> <li>passenger traffic (millions of passenger-km)</li> </ul> <p><b><u>Railway infrastructures and HS-HC lines:</u></b></p> <ul style="list-style-type: none"> <li>passenger traffic (millions of passenger-km)</li> </ul>	
<p><b><u>Transport</u></b> <b><u>Incentives for rail freight transportation:</u></b></p> <ul style="list-style-type: none"> <li>air pollutants (PM<sub>2.5</sub>, NMVOC, SO<sub>2</sub>, and NO<sub>x</sub>) avoided</li> </ul> <p><b><u>Railway infrastructures and HS-HC lines:</u></b></p>	

<sup>10</sup> The monetization is calculated using a differential between rail and road equal to 3.1 €/tons.km, attributing environmental and social impacts

<ul style="list-style-type: none"> <li>future air pollutants (PM2.5, NMVOC, SO<sub>2</sub>, and NO<sub>x</sub>) reduced (tons/year)</li> </ul>	
<p><b>Transport</b></p> <p><u>Railway infrastructures and HS-HC lines:</u></p> <ul style="list-style-type: none"> <li>scrap materials management (m<sup>3</sup> and % of material reused)</li> </ul>	
<p><b>Pollution prevention and control, and circular economy</b></p> <p><u>Integrated Waste Cycle:</u></p> <ul style="list-style-type: none"> <li>recycling rate<sup>11</sup></li> <li>number of waste treatment plants per type</li> <li>% of waste sent to landfills out of total regional municipal waste</li> </ul>	
<p><b>Pollution prevention and control, and circular economy</b></p> <p><u>Soil pollution:</u></p> <ul style="list-style-type: none"> <li>number of sites surveyed for status of contamination</li> </ul>	
<p><b>Pollution prevention and control, and circular economy</b></p> <p><u>Air pollution:</u></p> <ul style="list-style-type: none"> <li>improvement of air pollution with respect of average annual limit compared to 2013</li> </ul>	
<p><b>Pollution prevention and control, and circular economy</b></p> <p><u>Water pollution:</u></p> <ul style="list-style-type: none"> <li>volumes of litter stranded</li> <li>Clean Coast Index (CCI)</li> <li>quality of marine environmental in terms of concentration of chlorophyll- phytoplankton and PREI index (Posidonia Rapid Easy Index)</li> </ul>	

<sup>11</sup> Calculated as % recycled of industrial waste, packaging waste and urban waste.

<p><b><u>Protection of the environment and biological diversity</u></b></p> <p><u>Protected marine areas, national parks and state natural reserves:</u></p> <ul style="list-style-type: none"> <li>CO<sub>2</sub> avoided emissions</li> </ul>	
<p><b><u>Protection of the environment and biological diversity</u></b></p> <p><u>Protected marine areas, national parks and state natural reserves:</u></p> <ul style="list-style-type: none"> <li>% protection coverage of key biodiversity area surveyed</li> <li>number of protected marine areas (EUAP) and submerged parks</li> </ul>	
<p><b><u>Protection of the environment and biological diversity</u></b></p> <p><u>Protected marine areas, national parks and state natural reserves:</u></p> <ul style="list-style-type: none"> <li>hectares of wooded area</li> <li>number of national parks and regional parks, and the respective area (million hectares), % of the territory</li> </ul>	
<p><b><u>Protection of the environment and biological diversity</u></b></p> <p><u>Water infrastructure:</u></p> <ul style="list-style-type: none"> <li>storage capacity of water resources in large dams (m<sup>3</sup>)</li> <li>number of residents without sewage service and purification service which could be mitigated.</li> </ul>	
<p><b><u>Protection of the environment and biological diversity</u></b></p> <p><u>International cooperation for environmental protection:</u></p> <ul style="list-style-type: none"> <li>number of protected marine species (cetacean)</li> </ul>	
<p><b><u>Protection of the environment and biological diversity</u></b></p> <p><u>Environmental protection, certifications and protection of biodiversity:</u></p> <ul style="list-style-type: none"> <li>number of EU Ecolabel licenses and products</li> </ul>	

<p><b>Research</b></p> <ul style="list-style-type: none"> <li>environmental impact of research and development programmes (tonnes of CO<sub>2</sub>e avoided per year)</li> </ul>	
<p><b>Research</b></p> <ul style="list-style-type: none"> <li>number of projects financed</li> </ul>	

**OPINION**

*The allocation of the bond’s proceeds has been disclosed, with a detailed breakdown across different eligible project categories/asset categories as proposed in the Framework and the Republic of Italy’s Framework for the Issuance of Sovereign Green Bonds has adopted an appropriate methodology to report the impact generated by providing comprehensive disclosure on data sourcing, calculations methodologies and granularity reflecting best market practices. Besides, the impact indicators used align with best market practices using ICMA’s recommended metrics, in the HFIR.*

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## ANNEX 1: Methodology

### Review of the post-issuance Reports

The report review of post-issuance reports provides the Issuer with an independent opinion on the soundness of its post-issuance report and of its alignment with recognized market guidelines and it provides investors with independent information regarding the reliability of the report produced. On the basis of the information provided by the Issuer, the alignment of the report is assessed with recognized market guidelines, the metrics chosen by the Issuer and the soundness of process and methodology of reporting. The metrics are analyzed based on specific sets of indicators using proprietary method referring to common market guidelines.

### High-level mapping to the SDG

The 17 Sustainable Development Goals (SDGs) were endorsed in September 2015 by the United Nations and provide a benchmark for key opportunities and challenges toward a more sustainable future. Using a proprietary method based on ICMA's Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals, the extent to the Issuers reporting and project categories contribute to related SDGs is identified.

## ANNEX 2: Quality management processes

### SCOPE

The Republic of Italy commissioned ICS to compile a Report Review on its Bond Report. The Report Review process includes verifying whether the Bond Report aligns with the Issuer's Green, Social and Sustainability Bond Framework and the respective market standards, i.e. the Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines and to assess the robustness and completeness of the reporting methodologies.

### CRITERIA

Relevant Standards for this Report Review:

- ICMA Green Bond Principles
- ICMA Harmonized Framework for Impact Reporting
- ICMA A High -Level Mapping to the Sustainable Development Goals

### ISSUER'S RESPONSIBILITY

Issuer's responsibility was to provide information and documentation on:

- BTP Green Allocation and Impact Report
- Framework for the Issuance of Sovereign Green Bonds (as of February 25, 2021)
- Proceeds Allocation
- Reporting Impact Indicators
- Methodologies, and assumptions for data gathering and calculation
- ESG Risk Management

### ISS ESG'S VERIFICATION PROCESS

ISS ESG is one of the world's leading independent environmental, social and governance (ESG) research, analysis and rating houses. The company has been actively involved in the sustainable capital markets for over 25 years. Since 2014, ISS ESG has built up a reputation as a highly-reputed thought leader in the green and social bond market and has become one of the first CBI approved verifiers.

This independent Report Review has been conducted by following the ICMA Guidelines for Green, Social, Sustainability and Sustainability-Linked Bonds External Reviews, and its methodology, considering, when relevant, the ISAE 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information.

The engagement with the Republic of Italy took place in May and June 2023.

### ISS' BUSINESS PRACTICES

ISS has conducted this verification in strict compliance with the ISS Code of Ethics, which lays out detailed requirements in integrity, transparency, professional competence and due care, professional behavior and objectivity for the ISS business and team members. It is designed to ensure that the verification is conducted independently and without any conflicts of interest with other parts of the ISS Group.



## About this Report Review

ISS ESG is one of the world's leading rating agencies in the field of sustainable investment. The agency analyzes companies and countries regarding their environmental and social performance.

We assess alignment with external principles (e.g. the ICMA Green Bond Principles, Social Bond Principles and Sustainable Bond Guidelines), analyze the sustainability quality of the assets and review the sustainability performance of the Issuer themselves. Following these three steps, we draw up an independent Report Review so that investors are as well informed as possible about the quality of the bond/loan from a sustainability perspective.

Learn more: <https://www.isscorporatesolutions.com/solutions/esg-solutions/green-bond-services/>

For information on Report Review services, contact: [SPOsales@isscorporatesolutions.com](mailto:SPOsales@isscorporatesolutions.com)

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