



Second Party Opinion

Federal State of Baden-Wuerttemberg –
Green Bond Framework

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Introduction

Ethifinance has been commissioned to provide an independent Second Party Opinion on the Green Bond Framework of the Federal State of Baden-Wuerttemberg (hereafter referred to as “Baden-Wuerttemberg”, “the federal state” or “the Issuer”). The assessment of the Framework was conducted in accordance with the International Capital Market Association’s Green Bond Principles (GBP) 2021 including Annex I 2022.

The Federal State of Baden-Wuerttemberg intends to issue green bonds and will use the proceeds to refinance eligible projects within in the categories of “Renewable Energy”, “Energy Efficiency”, “Green Buildings”, “Clean Transportation”, “Climate Change Adaptation”, “Sustainable Water and Wastewater Management”, “Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products”, “Pollution Prevention and Control”, “Terrestrial and Aquatic Biodiversity Conservation” and “Environmentally Sustainable Management of Living Natural Resources and Land Use”. The proceeds will be used, for example, to refinance cycle paths on rural roads, energy-efficient heating networks, the purchase of land important for nature conservation, a research programme on organic farming, -or energy-efficient housing subsidies.

As of 2023, 11.28 million people live in the Federal State of Baden-Wuerttemberg, which covers an area of 35,751 square kilometers. This makes it the third-largest federal state in Germany, both in terms of area and population. Baden-Wuerttemberg is located in south-west Germany and shares borders with the German states of Bavaria, Hesse and Rhineland-Palatinate. It neighbouring countries are France, Austria and Switzerland.

As Germany is a federal state, Baden-Wuerttemberg has its own government, parliament and judiciary. In addition to the Ministry of State, the government currently has 11 other specialised ministries, such as the Ministries of “Finance”, “Economy, Labour and Tourism” and “Social Affairs, Health and Integration”. Key activities of the federal state, and its associated expenditure, include the education system, law enforcement, transportation (for example, through subsidies for local and regional public transport), and the construction of public buildings, among other responsibilities.

Environmental and climate protection is integrated into the policies of the Federal State of Baden-Wuerttemberg as a central priority. For example, in 2023, the state passed the “Baden-Wuerttemberg Climate Protection and Climate Change Adaptation Act”. This law complied with the requirements of the Federal Constitutional Court, which determined that the environmental protection objective in the Basic Law obliges both the federal government and the states to protect the climate. The Baden-Wuerttemberg law sets climate targets for 2040, with interim milestones. In addition, a special programme to strengthen biodiversity, first launched in 2018, was further developed and expanded in 2022. Proceeds from the green bonds will also be used to combat climate change and protect biodiversity, among other things.

Regarding the issuance proceeds, the Federal State of Baden-Wuerttemberg undertakes to use them exclusively for the refinancing of projects that demonstrate sustainable benefits in line with the Green Bond Principles (GBP). These projects aim to foster climate change mitigation and adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, as well as protection and restoration of biodiversity and ecosystems.

EthiFinance conducted the assessment from July to October 2024. The dedicated persons of the Federal State of Baden-Wuerttemberg provided all relevant documents, and EthiFinance was in direct contact with the relevant employees. The information received has enabled us to form a reasonable opinion on the Framework’s compliance with the above-mentioned guidelines.

EthiFinance General Opinion

EthiFinance considers the Federal State of Baden-Wuerttemberg's Green Bond Framework ("the Framework") to be fully aligned with the ICMA 2021 Green Bond Principles. The eligible project categories largely reflect activities listed as eligible under the EU Green Taxonomy¹, contributing significantly to the objectives of climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems. The eligible project categories make a relevant contribution to the UN Sustainable Development Goals (SDGs).

1. ESG Maturity of the Federal State of Baden-Wuerttemberg

The Federal State of Baden-Wuerttemberg's ESG risk management is very strong, with the state deploying robust policies to guide its day-to-day activities. Moreover, the Framework is consistent with the federal state's overall strategy. Baden-Wuerttemberg has received an "advanced" rating from a recognised ESG rating agency.² The federal state is involved in three notable controversial business activities. However, there is no information to suggest that the Federal State of Baden-Wuerttemberg has engaged in significant controversial business practices.

2. Compliance with ICMA Principles

Not Aligned

Partially Aligned

ICMA Aligned

Best Practices

A. Use of Proceeds

ICMA ALIGNED

The eligible projects of the FEDERAL STATE OF BADEN-WUERTTEMBERG are aligned with the ICMA principles and demonstrate clear environmental benefits. The link to green market standards is evident in the Framework, especially concerning SDGs and the EU Taxonomy.

B. Process for Evaluation & Selection

ICMA ALIGNED

EthiFinance considers the governance and functioning of the dedicated committee to provide a robust framework for project evaluation and selection. This is regarded as aligned with the Green Bond Principles of ICMA. The criteria for selecting eligible projects are clearly defined.

C. Management of Proceeds

ICMA ALIGNED

EthiFinance regards the process of the Federal State of Baden-Wuerttemberg for managing the proceeds as transparent and robust. The Framework provides sufficient information on the account used to receive the proceeds, the timeline for allocation, and the management of unallocated funds.

D. Reporting

ICMA ALIGNED

EthiFinance considers the reporting commitments outlined in the Framework to be aligned with the ICMA Principles. The Issuer commits to reporting on the allocation of funds and the environmental benefits of the projects. There is also a clear commitment to regular future reporting.

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2139&from=EN>

² The rating has been given by Moody's: <https://www.baden-wuerttemberg.de/de/service/presse/pressemitteilung/pid/land-ist-spitzenreiter-bei-nachhaltigkeitsrating>

ESG Maturity of the Federal State of Baden-Wuerttemberg

GENERAL OPINION

The Federal State of Baden-Wuerttemberg's ESG risk management is very strong, with robust policies in place to guide its day-to-day activities. Moreover, the issuance is consistent with the state's overall strategy.

A. Controversies

EthiFinance has examined the Federal State of Baden-Wuerttemberg in relation to 15 controversial business activities as well as its involvement in controversial business practices. As of the reporting date of 10 September 2024, there was information suggesting the Federal State of Baden-Wuerttemberg is involved in certain controversial business activities³ and practices.⁴

Controversial Business Activities

The Federal State of Baden-Wuerttemberg is involved in three controversial business activities:

Alcohol: According to preliminary foreign trade statistics, Baden-Wuerttemberg exported beer worth €103,90 million in 2023 through the state-owned brewery "Badische Staatsbrauerei Rothaus AG". The brewery is fully owned by the state via a holding company. Its main customers in 2023 were Russia, Italy, France, and China.

Fossil Fuels: The Federal State of Baden-Wuerttemberg is currently constructing a 250-kilometre natural gas pipeline (Süddeutsche Erdgasleitung, or SEL) in cooperation with the transmission system operator "Terranets BW GmbH". Once completed, the pipeline will transport natural gas and biogas, with plans to begin transporting hydrogen starting in 2030.

Unconventional Oil and Gas Production: The Karlsruhe-based energy supplier "Energie Baden-Württemberg AG (EnBW)" purchases significant quantities of fracked liquefied natural gas (LNG) from the USA. A majority stake of 46.75% is held by the Federal State of Baden-Wuerttemberg through its fully owned holding company, "Neckarpri-Beteiligungsgesellschaft mbH". An additional 46.75% of the shares are owned by the "Zweckverband Oberschwäbische Elektrizitätswerke (OEW)".

Controversial Business Practices

As of the screening date of 22 August 2024, no information was available to suggest that the Federal State of Baden-Wuerttemberg was involved in any significant controversial business practices.

³ Controversial areas of business are specified in the Methodology section.

⁴ Controversial business practices are specified in the Methodology section.

B. ESG Risk Management

GENERAL OPINION	Very Good
The Federal State of Baden-Wuerttemberg has implemented appropriate policies and processes to identify and manage the material ESG risks associated with its projects. The state’s risk management is very effective at identifying and mitigating potentially material ESG criteria.	Good
	Moderate
	Weak

In addition to positive impacts, certain potential ESG risks are associated with the projects to be refinanced. These material risks include affordability, reliability, and availability of energy; environmental protection; health and safety risks related to electricity transmission and distribution infrastructure; as well as risks connected to biodiversity, waste management, corruption, and bribery.

Several measures have been implemented to manage these ESG risks:

• Climate Measures	<p>By 2016, all state ministries and ten other state authorities and institutions had implemented an ISO 50001-certified energy management system, which was successfully recertified in 2019. Additionally, the “State Green IT Strategy” aims for annual energy savings of two per cent in the state’s IT systems. These measures contribute to the state’s goal of operating its administration on a net greenhouse gas-neutral basis by 2030.</p> <p>The legal framework for climate measures in Baden-Wuerttemberg includes targets such as expanding areas for renewable energy, phasing out climate-damaging subsidies, reviewing funding programmes for climate protection and adaptation, and setting specific sector targets for 2030. In addition to the 2023 “Climate Protection and Climate Change Adaptation Act”, the state has introduced other instruments, such as requirements for using photovoltaic systems in new buildings, roof renovations, and car parks. The “Climate Measures Register” tracks and evaluates state government measures, while the “CO₂ shadow price” aims to incorporate climate costs into planning and procurement, making climate-damaging state fund usage more expensive. The state also provides support to local authorities with tools like the CO₂ balancing tool and municipal heating planning guides.</p> <p>Monitoring of these state climate measures is carried out by state administration ministries, the State Statistical Office, and the independent Climate Expert Council, which advises the state government and parliament. Results from these processes are made available to the public through reports such as the annual “Climate Report”, the triennial “Climate Protection and Projection Report”, and a five-yearly report on “Adaptation to Unavoidable Consequences”, to be published from 2025.</p> <p>In addition to other budget expenditure that indirectly benefits the climate, €400.5 million has been earmarked in Baden-Wuerttemberg’s 2024 state budget for climate measures.</p>
• Environmental Management	<p>Several ministries in Baden-Wuerttemberg have an ISO 14001-certified environmental management system. The Ministry of the Environment, Climate Protection and the Energy Sector, along with the Baden-Wuerttemberg Environmental Agency, also hold EMAS certification.</p> <p>Beyond complying with European and national legislation, the state has its own environmental protection initiatives, such as designating “Natura 2000” areas (FFH and bird sanctuaries), which are protected through conservation measures. The state also has a species and biotope protection programme and an environmental administration law, which outlines the framework for environmental impact assessments. Ecological considerations are integrated into sector-specific regulations, such as the Building Code.</p> <p>Monitoring is conducted by the Ministry of the Environment, Climate Protection and the Energy Sector, which published the “Report on the State of Nature in Baden-Wuerttemberg” in 2016 and 2020.</p> <p>In addition to other budget expenditure that support nature conservation, €661.45 million has been allocated in the 2024 state budget for environmental protection.</p>

<ul style="list-style-type: none"> • Circular Economy Adapted Products, Production Technologies and Processes 	<p>As part of its democratic administration, Baden-Wuerttemberg implements European directives and German federal laws, including the German Recycling Act, which prioritises waste prevention and the waste hierarchy. The state has also passed the “State Circular Economy Act”, which focuses on avoiding and recycling construction and demolition waste. The state government’s administrative regulation on the awarding of public contracts ensures that the greatest possible efforts are made to minimise pollutant and noise emissions.</p> <p>Municipal waste management is monitored by regional councils, which oversee aftercare measures for landfills. The state’s waste management plan, adopted in February 2024, sets recycling quotas for various materials.</p> <p>The State Ministry for the Environment, Climate Protection and the Energy Sector publishes an annual waste balance sheet for the federal state.</p>
<ul style="list-style-type: none"> • Protection of Biodiversity 	<p>In addition to broader legislation such as the Water and Federal Immission Control Act, Baden-Wuerttemberg implements laws aimed at protecting biodiversity, including the “Amendment to the Act to Strengthen Biodiversity” from 2020.</p> <p>The state has set quantitative targets, such as expanding the biotope network to cover 15% of its area by 2030, increasing organic farming to 30 to 40% by 2030, and reducing synthetic chemical pesticide use by 40 to 50% by 2030. In addition, the Ministry of the Environment, Climate Protection and the Energy Sector is implementing a ban on pesticides in nature conservation areas and established a compensation register for land-related conservation measures.</p> <p>All projects included in the Green Bond are subject to natural law standards, and non-compliance would result in a loss of eligibility and a halt in the allocation of proceeds.</p>
<ul style="list-style-type: none"> • Human Rights and Labour Standards 	<p>As a democratic administrative organisation, the Federal State of Baden-Wuerttemberg adheres to national human rights standards, as specified by the Basic Law of the Federal Republic of Germany, and the ILO core labour standards, ratified by the federal government. The state’s constitution reinforces the commitment to “inviolable and inalienable human rights and fundamental rights”.</p> <p>In 2013, the state adopted the Public Corporate Governance Code (PCGK), which applies to state-owned companies and ensures non-discrimination, equal pay, inclusion of people with disabilities and migrants, family compatibility, protection from sexual harassment, and collective wage agreements.</p> <p>The regional councils provide information on occupational health and safety, including maternity and working time protection.</p>
<ul style="list-style-type: none"> • Occupational Health and Safety 	<p>The Federal State of Baden-Wuerttemberg implements Occupational Health and Safety Act through regulations issued by the Ministry of Economic Affairs, Labour and Tourism, and the trade supervisory authority. These regulations target specific sectors and occupational groups, covering issues such as hazardous substances and optical radiation.</p> <p>Both the regional councils and the state’s trade inspectorate provide guidance on technical occupational health and safety through their websites.</p>
<ul style="list-style-type: none"> • Product Safety 	<p>The State Institute for the Environment in Baden-Wuerttemberg is responsible for ensuring compliance with European and national product safety regulations, such as the German Product Safety Act. The Institute’s testing centre carries out safety checks on products, while regional councils serve as market surveillance authorities.</p> <p>The state also engages in material consumer protection, with tests conducted by the Institute’s chemical laboratory. Defective products are reported and published in the European rapid alert system “RAPEX”, facilitating the removal of unsafe products from the market.</p>
<ul style="list-style-type: none"> • ESG Aspects for Contractors, Suppliers and Subcontractors 	<p>The German Supply Chain Compliance Act applies at the national level. As a public corporation, Baden-Wuerttemberg and its participating companies have a special obligation to comply with ESG standards, such as the “Collective Bargaining and Minimum Wage Act”,</p>

	<p>and applicable environmental regulations when awarding public contracts. These standards apply not only to state-owned companies but also to contractors.</p> <p>The "Administrative Regulation of the State Government on the Award of Public Contracts" (VwV Beschaffung) covers areas such as ILO core labour standards, environmental protection, and energy efficiency, while ensuring operational requirements for the award procedure to ensure essential standards of compliance, such as avoiding conflicts of interest and corruption.</p>
<ul style="list-style-type: none"> Dialogue with Local Stakeholders 	<p>The Federal state has established various forums for dialogue with citizens, including the "Energy Dialogue Forum", which engages municipalities and residents on renewable energy projects. The "Climate Measures Register" also invites citizen participating, while the "Youth Council for Climate & Sustainability" represents the younger population in discussions with politicians. The "Young Platform of the Baden-Wuerttemberg Sustainability Strategy" hosts events for citizens to learn about and discuss climate protection and sustainability.</p>
<ul style="list-style-type: none"> Compliance 	<p>In addition to implementing the German Anti-Corruption Act, the state has its own administrative regulation to prevent and combat corruption, covering key issues such as conflicts of interest, money laundering, and fraud. The state's "Anti-Corruption Coordination Group" (KGK), established in 1996, issues recommendations on anti-corruption measures and organises inter-agency training events. It consists of representatives from the public prosecutor's offices, the State Court of Auditors, two state ministries, and the Association of Districts, Towns and Municipalities.</p> <p>The Court of Auditors oversees compliance with rights and regulations, playing a key role in ensuring accountability for the Issuer.</p>

C. Strategic Consistency

Baden-Wuerttemberg is a German Federal state with an area of 35,751 square kilometres and a population of 11.28 million as of 2023. According to the Basic Law of the Federal Republic of Germany, a federal state retains legislative competence for key areas such as education, transportation, basic infrastructure and services as well as socio-economic development. The issuance of the green bonds aligns with the Green Bond Principles (GBP) and supports the Issuer's strategy to raise awareness of sustainability issues and motivate citizens, companies, and local authorities to act more sustainably.

Sustainability Goals of the Federal State of Baden-Wuerttemberg

The Federal State of Baden-Wuerttemberg has a sustainability strategy that places sustainability at the heart of government and administrative decisions. The strategy aims to raise awareness of sustainability issues and motivate citizens, companies, and local authorities to act more sustainably. It is based on 17 guiding principles, through which the state commits to environmental and climate protection and formulates guiding principles on how these commitments should be implemented in practice. For example, the state seeks to promote the energy transition, encourage sustainable consumption, and preserve nature and biodiversity. In addition to ecological guidelines, social and governance aspects are also integrated into the strategy, with the state committing to ensuring equal treatment for all citizens, making decision-making processes transparent, and providing a safe and healthy environment for everyone.

To support these 17 guiding principles, the Federal State of Baden-Wuerttemberg has defined 52 status indicators. Each guiding principle has at least one specific indicator designed to make progress measurable and transparent. For example, three status indicators support the guiding principle of promoting the energy transition with quantitative data: "Energy productivity and primary energy consumption", "Energy consumption of private households", and "Renewable energies". For the guiding principle of safety, the indicators include "Road traffic accidents" and "Criminal offences". The results are published in an indicator report on the state's website, which transparently shows whether trends are positive, negative, or unchanged. For example, the 2022 indicator report revealed that the proportion of electricity generated from renewable energies in 2020 was 41%, nearly 10 percentage points higher than the previous year.

With this progress, Baden-Wuerttemberg is also advancing towards a key goal of its sustainability strategy: achieving net greenhouse gas neutrality (climate neutrality) by 2040. This goal is outlined in the Baden-Wuerttemberg Climate Protection and Climate Change Adaptation Act. In addition to the overarching goal of climate neutrality, interim targets have been set. For example, by 20230, total emissions from 1990 levels are to be reduced by at least 65%. To achieve this, specific sector targets have been adopted, including for the energy industry and transportation.

Beyond climate protection, the Federal State of Baden-Wuerttemberg is increasingly focusing on biodiversity. To address this, the Biodiversity Strengthening Act was passed, signalling the state's intention to respond to species loss and take a pioneering role in reversing biodiversity decline. The need for action is also reflected in the indicator report, which shows that habitat conditions for farmland bird species continue to deteriorate. As a result, the state is developing a statewide concept for the protection of farmland bird species.

Contribution of the Issuance to the Strategy

The projects financed by the Green Bond are in line with the sustainability strategy of the Federal State of Baden-Wuerttemberg. Each project category has an impact on at least one of the 17 guiding principles of the sustainability strategy.

The project categories "Renewable energy" and "Energy efficiency" contribute to the first two guiding principles: "Energy transition" and "Climate protection". Other project categories that support these principles are "Green buildings", "Clean transportation", and "Climate change adaptation", with the latter specifically targeting a sub-goal of the second guiding principle – minimising ecological damage caused by climate change. All these categories also have an impact on achieving the climate protection goals of the Federal State of Baden-Wuerttemberg.

The "Clean transportation" project category also contributes to the third guiding principle of promoting and implementing innovative, environmentally friendly and social mobility concepts, while the "Green buildings" category can be assigned to the fourth guiding principle of implementing future-oriented urban and spatial development.

The fifth principle of the sustainability strategy states that "acting sustainably in Baden-Wuerttemberg means optimising the use of resources and decoupling economic growth from the consumption of natural resources". The project categories "Sustainable Water and Wastewater Management", "Recycling Management", and "Pollution Prevention" contribute to this guiding principle.

As mentioned earlier, the Federal State of Baden-Wuerttemberg is increasingly focusing on the topic of biodiversity. This focus is evident in the sixth guiding principle, which commits the state to protect and preserve the basis of life, the diverse nature, and the unique cultural landscapes of the state, while minimising the impact on people, nature, and the environment beyond its borders. The project categories "Terrestrial and Aquatic Biodiversity Conservation" and "Environmentally Management of Living Natural Resources and Land Use" contribute to this guiding principle.

Compliance with the ICMA Principles

A. Use of Proceeds

GENERAL OPINION	Best Practice
The eligible projects of the Federal State of Baden-Wuerttemberg are aligned with the ICMA Principles and demonstrate clear environmental benefits. The link to green market standards is reflected in the Framework, particularly in relation to SDGs and the EU Taxonomy.	ICMA Aligned
	Partly Aligned
	Not Aligned

Project Financing

The Federal State of Baden-Wuerttemberg will use the net proceeds from green bond issuances under this Framework to refinance environmental projects with clear environmental benefit from the previous budget year.	
• Share of refinancing	The share of refinancing for the green bond issuances is 100%.
• Look-back period for existing assets or expenditures	The Federal State of Baden-Wuerttemberg refinances its projects with a maximum look-back period of 12 months prior to the issuance. All proceeds will therefore be allocated to eligible expenditures at the time of issuance.

Project Categories

The Federal State of Baden-Wuerttemberg has defined ten main eligible project categories in its Framework. For each category, the state has listed the types of projects financed:	
Project categories	Description
Renewable energy	<ul style="list-style-type: none">• Production, acquisition, operation, distribution, and transmission of renewable energy
Energy efficiency	<ul style="list-style-type: none">• Energy management developments to increase energy efficiency in industry, public, and service buildings.• Funding of enabling technologies to shift towards a less energy-intensive future
Green buildings	<ul style="list-style-type: none">• New public buildings (e.g. administrative buildings, universities)• Renovation of existing public buildings (e.g. administrative buildings, universities)
Clean transportation	<ul style="list-style-type: none">• Development and maintenance of vehicles and infrastructure for sustainable mobility, including personal and mass public transport
Climate change adaptation	<ul style="list-style-type: none">• Projects related to enhancing eco-systems, including infrastructure measures to address climate-related hazards such as drought, desertification, extreme weather events, rising water levels, declines in agricultural productivity, forest fires, epidemics, pests, and the loss of biodiversity and ecosystem services due to global temperature increases

Sustainable water and wastewater management	<ul style="list-style-type: none">• Construction, operation, and maintenance of sustainable water, waste and wastewater projects that contribute to improving water supply, distribution, quality, sanitation, and wastewater collection and treatment
Circular economy adapted products, production technologies and processes	<ul style="list-style-type: none">• Projects aimed at reducing raw material use and the public procurement of sustainable products with a focus on resource efficiency
Pollution, prevention and control	<ul style="list-style-type: none">• Projects related to waste prevention, reduction, reuse, or recycling, inducing the collection, sorting, processing, conversion, and treatment of waste in line with the waste hierarchy• Projects aimed at reducing air pollution through measures related to e-mobility, vehicle maintenance, promoting public transport, and air solutions
Terrestrial and aquatic biodiversity conservation	<ul style="list-style-type: none">• Projects focused on the restoration and rehabilitation of ecosystems (e.g. renaturation of banks, reopening of urban rivers, planting of hedges)• Sustainable forest management (e.g. adaptation of tree species to climate change, safeguarding state forests), including afforestation, reforestation, and rehabilitation of degraded forests• Investments in protected areas in line with national and EU recommendations (nature conservation areas, Natura 2000)
Environmentally sustainable management of living natural resources and land use	<ul style="list-style-type: none">• Projects focused on the preservation and sustainable use of terrestrial and aquatic natural resources

Objectives and Benefits

Renewable Energy

<ul style="list-style-type: none">• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by mitigating climate change.
<ul style="list-style-type: none">• Sustainable benefits	Reduction and avoidance of CO ₂ emissions through the production, acquisition, operation, distribution, and transmission of renewable energy. The Issuer can quantify the environmental benefits in the report.

Energy efficiency

<ul style="list-style-type: none">• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by mitigating climate change.
<ul style="list-style-type: none">• Sustainable benefits	Reduction and avoidance of CO ₂ emissions through increased energy efficiency in buildings and the development of energy efficient technologies. The Issuer can quantify the environmental benefits in the report.

Green Buildings

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by mitigating climate change.
• Sustainable benefits	Reduction and avoidance of CO ₂ emissions by improving the energy efficiency of new and existing buildings. The Issuer can quantify the environmental benefits in the report

Clean Transportation

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by mitigating climate change.
• Sustainable benefits	Avoidance of CO ₂ emissions by providing access to low-carbon mobility solutions and infrastructure. The Issuer can quantify the environmental benefits in the report.

Climate Change Adaptation

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by enhancing climate change adaptation.
• Sustainable benefits	Increased resilience of ecosystems. The Issuer can quantify the environmental benefits in the report.

Sustainable Water and Wastewater Management

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by promoting the sustainable use and protection of water and marine resources.
• Sustainable benefits	Contribution to achieving or maintaining good water quality in bodies of water. The Issuer can quantify the environmental benefits in the report.

Circular Economy Adapted Products, Production Technologies and Processes, and/or Certified Eco-efficient Products

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by promoting the transition to a circular economy.
• Sustainable benefits	Contribution to waste prevention, reuse, and recycling. The Issuer can quantify the environmental benefits in the report.

Pollution Prevention and Control

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by preventing and controlling pollution.
• Sustainable benefits	Reduction and avoidance of waste, air pollution, and other pollutants. The Issuer can quantify the environmental benefits in the report.

Terrestrial and Aquatic Biodiversity Conservation

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by protecting and restoring biodiversity and ecosystems.
• Sustainable benefits	Conservation and restoration of ecosystems and biodiversity. The Issuer can quantify the environmental benefits in the report.

Environmentally Sustainable Management of Living Natural Resources and Land Use

• Sustainable objectives	The projects refinanced by the bonds contribute positively to sustainability by protecting and restoring biodiversity and ecosystems.
• Sustainable benefits	Conservation and restoration of ecosystems and biodiversity. The Issuer can quantify the environmental benefits in the report.

The core activity of the Federal State of Baden-Wuerttemberg – to ensure the welfare of its citizens and raise awareness about sustainability issues, motivating citizens, companies, and local authorities to act sustainably – along with the projects under the GBP categories “Renewable Energy”, “Energy Efficiency”, “Green Buildings”, “Clean Transportation”, “Climate Change Adaptation”, “Sustainable Water and Wastewater Management”, “Circular Economy Adapted Products, Production Technologies and Processes”, “Pollution Prevention and Control”, “Terrestrial and Aquatic Biodiversity Conservation” and “Environmentally Sustainable Management of Living Natural Resources and Land Use” are expected to contribute to the following Sustainable Development Goals (SDGs):

	<p>UN SDG 2: End hunger, achieve food security, improve nutrition, and promote sustainable agriculture</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Environmentally Sustainable Management of Living Natural Resources and Land Use 		<p>UN SDG 6: Ensure availability and sustainable management of water and sanitation for all</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Sustainable Water and Wastewater Management
	<p>UN SDG 7: Ensure access to affordable, reliable, sustainable, and modern energy for all</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Renewable Energy • Energy Efficiency 		<p>UN SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Energy Efficiency
	<p>UN SDG 11: Make cities and human settlements inclusive, safe, resilient, and sustainable</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Clean Transportation • Green Buildings • Sustainable Water and Wastewater Management 		<p>UN SDG 12: Ensure sustainable consumption and production patterns</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Circular Economy Adapted Products, Production Technologies and Processes • Pollution Prevention and Control
	<p>UN SDG 13: Take urgent action to combat climate change and its impacts</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Renewable Energy • Climate Change Adaptation 		<p>UN SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, manage forests sustainably, combat desertification, halt and reverse land degradation, and halt biodiversity loss</p> <p>Relevant project categories:</p> <ul style="list-style-type: none"> • Environmentally Sustainable Management of Living Natural Resources and Land Use • Terrestrial and Aquatic Biodiversity Conservation

Impact Assessment⁵

Green Impact – Renewable Energy

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Energy Efficiency

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Green Buildings

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Clean Transportation

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Climate Change Adaptation

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Sustainable Water and Wastewater Management

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Circular economy adapted products, production technologies and processes

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Pollution Prevention and Control

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Terrestrial and Aquatic Biodiversity Conservation

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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Green Impact – Environmentally Sustainable Management of Living Resources and Land Use

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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⁵ The in-depth impact assessment of the relevant projects of the project categories is to be found in the Appendix (pages 28 - 55).

B. Process for Project Evaluation & Selection

GENERAL OPINION	Best Practice
EthiFinance considers the governance and functioning of the dedicated committee to provide a robust framework for project evaluation and selection. It is deemed aligned with the ICMA the Green Bond Principles. The eligibility criteria for selecting eligible projects are clearly defined.	ICMA Aligned
	Partly Aligned
	Not Aligned

Processes and Governance

<ul style="list-style-type: none">Committee’s composition and governance	<p>To ensure a structured process for project selection and evaluation, the Federal State of Baden-Wuerttemberg has created a “Green Bond Baden-Wuerttemberg Interministerial Working Group” comprising representatives from each ministry. Within this working group, a Coordination Group has been established with representatives from the following ministries:</p> <p>Ministry of Finance State Ministry Ministry for the Environment, Climate and Energy Sector</p> <p>The final decision on the projects included in the respective Green Bond is made by the Ministry of Finance.</p>
<ul style="list-style-type: none">Committee functioning	<p>The ministries are responsible for identifying projects and providing information on them. The Coordination Group is then responsible for checking compliance with the eligibility criteria and presenting the results to the Interministerial Working Group. Decisions are recorded in Excel documents and in a project documentation factsheet. All meetings of the ministries must also be documented, as well as individual discussions regarding project eligibility. Meetings of the Interministerial Working Group are held several times a year.</p> <p>The Coordination Group regularly consults external stakeholders during the decision-making process. These stakeholders include international banks with expertise in ICMA or EU working groups on Green Bond financing.</p> <p>There is no information regarding internal or external audit of this process.⁶</p>
<ul style="list-style-type: none">Verification of project eligibility	<p>The Coordination Group is responsible for the evaluation and selection of eligible projects in accordance with the criteria set out in the Green Bond Framework. Beforehand, the ministries must complete a checklist for the projects they have selected to check whether their projects are eligible. Projects must be continuously monitored by the ministries to ensure that the investments are in line with all relevant internal policies and guidelines. Projects are also monitored for controversies. If controversies are identified or the eligibility criteria are no longer met, the proceeds are reallocated.</p>

⁶ The Federal State of Baden-Wuerttemberg states that the processes of selecting and evaluating projects are subject to constant review by the various committees set up.

Eligibility Criteria

The eligibility criteria of the Federal State of Baden-Wuerttemberg are clearly defined. In some project categories, specific requirements of the EU and/or CBI Taxonomy are named.

In addition to the specific eligibility criteria for each project category, the Federal State of Baden-Wuerttemberg has defined overarching eligibility criteria, which are divided into budgetary/systematic and impact criteria.

Budgetary/systematic criteria:

- Actual expenditure reference: The green project must result in an outflow of funds in the financial year preceding the bond issuance. The cash outflow can be quantified, ensuring that allocation reporting is available at the time of issuance.
- Project expenditure: Eligible expenses include capital expenditure, public subsidies, and any operating expenditure that increases the lifetime or value of a green asset. Operating or personnel expenditures that do not increase the value or lifetime of a green asset are ineligible.
- Net expenditure of the federal state: Only the net expenditure of the federal state is considered. Expenditure already funded by the federal government, or the EU is excluded to avoid double counting.
- Definition and precision
- Voluntary state activity: Projects required by EU or federal regulation or court decisions are excluded.

Impact criteria:

- Link to a substantial contribution to an environmental objective as specified in the EU Taxonomy for sustainable economic activities (Articles 9 to 15), considering the technical screening criteria where possible
- Mapping of the ICMA Green Bond Principles categories
- Fulfilment of “do-no-significant-harm” criteria as specified in the EU Taxonomy for sustainable economic activities (Article 17). Eligible green projects should, to a reasonable extent, comply with the “do-no-significant-harm” (DNSH) criteria.
- Compliance with minimum social safeguards as specified in the EU Taxonomy
- At least a qualitative description of the expected impact, ideally with a quantitative indicator (e.g. greenhouse gas reduction)

Exclusion criteria:

- Fossil fuel-related activities
- Nuclear energy
- Armament
- Landfill expansion

Project Category: Renewable Energy

Project type	Criteria
<ul style="list-style-type: none">• Production, acquisition, operation, distribution, and transmission of renewable energy (e.g. solar, wind, hydropower, geothermal, bioenergy)	<ul style="list-style-type: none">• Life cycle emissions below 100g CO₂/kWh• Hydropower: Power density > 5W/m² or life cycle emissions as specified for plants built before 2020; for plant built in 2020 or later, a minimum density of 10W/m² or GHG intensity < 50gCO₂/kWh• Bioenergy: From agricultural or forestry residues, not competing with food production

Project Category: Energy Efficiency

Project type

- Development of projects to increase energy efficiency in industry, public and service buildings
- Funding of enabling technologies for shift towards less energy intensive future

Criteria

- Examples include:
 - Installation of energy-efficient technologies
 - Energy efficiency improvements through process changes, heat loss reduction or waste heat recovery
 - Broadband infrastructure that enables energy savings
-

Project Category: Green Buildings

Project type

- Construction of new (public) buildings
- Renovation of existing (public) buildings

Criteria

- New buildings: Built after 31 December 2020 with energy performance at least 10% better than the threshold for Nearly Zero-Energy Buildings (NZEB)
 - Renovations: Major renovations that meet current energy performance requirements
-

Project Category: Clean Transportation

Project type

- Development and maintenance of vehicles and infrastructure needed for sustainable mobility of personal and mass public mobility
- Projects supporting public transportation means

Criteria

- Low-carbon vehicles: Fully electric, hydrogen, or other zero-emission passenger vehicles
 - Rail rolling stock: Electrified rail transport for passengers and freight (e.g. light rail transit, metro, tram, trolleybus, bus and wagons)
 - Low-carbon transportation infrastructure: EV charging stations, electrified railways, hydrogen fuelling stations, and bicycle lanes
-

Project Category: Climate Change Adaptation

Project type

- Measures addressing climate-related hazards as outlined in Appendix A of the EU Taxonomy's DNHS criteria for climate change adaptation⁷

Criteria

- Examples:
 - Subsidies for climate-resilient forests and afforestation
 - Timber construction measures
-

Project category: Sustainable water and wastewater management

Project type

- Development and maintenance of vehicles and infrastructure needed for sustainable mobility of personal and mass public mobility.
- Projects supporting public transportation means

Criteria

- All activities must comply with national and EU recommendations (Federal Water Act § 57, Surface Waters Ordinance, EU Water Framework Directive).
 - Examples:
 - Water and wastewater treatment plans
 - Projects to strengthen critical water infrastructure
 - Projects that monitor water security
 - Water recycling and reuse projects
-

⁷ <https://ec.europa.eu/sustainable-finance-taxonomy/assets/documents/CCA%20Appendix%20A.pdf>

Project Category: Circular Economy Adapted Products, Production Technologies and Processes, and/or Certified Eco-efficient Products

Project type	Criteria
<ul style="list-style-type: none"> Projects linked to reducing raw material use and procuring sustainable products 	<ul style="list-style-type: none"> Exclusion: <ul style="list-style-type: none"> No landfill activities Biomass only if part of a larger value chain or originating from non-hazardous or non-recyclable waste Heating/cooling and co-generation facilities using biofuel/biomass only if energy conversion efficiency of 80% is achieved Examples: <ul style="list-style-type: none"> Increased recyclability/reusability of products Pilot plants for phosphorus recycling

Project Category: Pollution Prevention and Control

Project type	Criteria
<ul style="list-style-type: none"> Projects linked to waste prevention, reduction, reuse, or recycling, in accordance with the waste hierarchy Projects aimed at reducing air pollution through measures related to e-mobility, vehicle maintenance, promotion of public transport, and air quality solutions 	<ul style="list-style-type: none"> General criteria: All activities must comply with national and EU recommendations (EU Waste Framework Directive) Exclusion criteria: Heating/cooling and co-generation facilities using biofuel/biomass are only eligible if energy conversion efficiency of 80% is achieved. Examples of eligible green projects (waste prevention, reduction, reuse, or recycling): <ul style="list-style-type: none"> Construction of integrated waste management facilities, including pre-treatment facilities such as material recovery facilities and transfer stations Examples of eligible green projects (reduction of air pollution): <ul style="list-style-type: none"> Public procurement of low-emission vehicles

Project Category: Terrestrial and Aquatic Biodiversity Conservation

Project type	Criteria
<ul style="list-style-type: none"> Restoration and rehabilitation of ecosystems Sustainable forest management Investments in protected areas 	<ul style="list-style-type: none"> Examples of eligible green projects (restoration and rehabilitation of ecosystems): Renaturation of riverbanks, reopening of urban rivers, and planting of hedges Examples of eligible green projects (sustainable forest management): Adaptation of tree species to climate change, safeguarding state forests, including afforestation, reforestation, and rehabilitation of degraded forests Criteria for investments in protected areas: Alignment with national and EU recommendations (Nature Conservation Areas, Natura 2000)

Project Category: Environmentally Sustainable Management of Living Natural Resources and Land Use

Project type	Criteria
<ul style="list-style-type: none"> Preservation and sustainable use of terrestrial and aquatic natural resources 	<ul style="list-style-type: none"> Environmentally sustainable organic agriculture in line with EU Organic standards Certified forestry in accordance with FSC, PEFC, or an equivalent standard

Sustainability Strategy

- | | |
|---|--|
| <ul style="list-style-type: none">• Coherence of the issuance | Green bonds issued under the Federal State of Baden-Wuerttemberg’s Green Bond Framework align with the Green Bond Principles (GBP) 2021 and contribute to the main objectives outlined in the Issuer’s sustainability strategy. ⁸ |
|---|--|
-

ESG Risk Management

- | | |
|---|---|
| <ul style="list-style-type: none">• Identification of risks | The Issuer has introduced a process to identify material ESG risks associated with the financed projects. All projects must be assessed against the relevant DNHS criteria of the EU Taxonomy, which are applicable to the respective economic activities. This assessment is managed through specific project profiles. No specific ESG risks are disclosed in the framework itself. |
| <ul style="list-style-type: none">• Mitigation of risks | The Issuer does not outline a formal process for identifying mitigation measures for material social and/or environmental risks within the framework. However, in the project profiles submitted to EthiFinance, the Federal State of Baden-Wuerttemberg details several measures to mitigate ESG risks, such as conducting environmental impact assessments. Additionally, the analysis of ESG risk management (pages 5-7) for the Federal State of Baden-Wuerttemberg shows that the Issuer has implemented various measures, policies, and processes to address ESG risks. |
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⁸ A detailed analysis of the compliance of the projects to be refinanced with the Issuer’s sustainability strategy can be found on pages 8 and 9.

C. Management of Proceeds

GENERAL OPINION		Best Practice
EthiFinance considers the Federal State of Baden-Wuerttemberg’s process for managing proceeds to be transparent and robust. The Framework provides sufficient information on the account used to receive the proceeds, the timeline for allocation, and the management of unallocated funds.		ICMA Aligned
		Partly Aligned
		Not Aligned

Process

<ul style="list-style-type: none">Traceability of proceeds	The Issuer applies a portfolio approach, where suitable green projects are collected in a portfolio.
<ul style="list-style-type: none">Controlled use of proceeds	The proceeds will only be allocated to projects that are included in the green project portfolio. These projects have been checked and verified by the Coordination Group beforehand to ensure that they meet the suitability criteria. This process aims to prevent proceeds from being directed to unsuitable projects. There is no information available regarding an internal or external audit of this process.

Allocation of Proceeds

<ul style="list-style-type: none">Adjustment of allocated proceeds	If a project within the portfolio is no longer deemed eligible, the proceeds will be reallocated to other eligible projects in the portfolio within 24 months of the reallocation decision.
<ul style="list-style-type: none">Disclosure of temporary placements of non-allocated proceeds	The Issuer confirms that the project pool of eligible projects will always exceed the proceeds received from the green bond.
<ul style="list-style-type: none">Definition of allocation timeframe	The Federal State of Baden-Wuerttemberg intends to achieve full allocation of the proceeds within 24 months of each Green Bond issuance. EthiFinance recommends that the Issuer adhere to a maximum allocation period of 12 months. Projects from the previous budget year are financed.

D. Reporting

GENERAL OPINION

EthiFinance considers the reporting commitments outlined in the Framework to be aligned with the ICMA Principles. The Issuer commits to reporting on the allocation of funds and the benefits of the projects, with a pledge for future regular reporting.

Best Practice

ICMA Aligned

Partly Aligned

Not Aligned

Report Details

• Frequency	The Issuer has committed to reporting annually.
• Material changes	In the event of material changes concerning eligible projects, the Issuer will publish this information in a timely manner.
• Scope of reporting	The Federal State of Baden-Wuerttemberg will provide an overview of the projects assigned to the Green Bonds, a brief description of each project, allocation of proceeds, and the expected environmental impact.
• Communication	The Issuer will communicate this information via its website.
• Process of data collection and consolidation	The Issuer discloses the underlying process for data collection and consolidation. Departmental managers of the ministries gather data from respective project managers and carry out quality assurance. The data is then forwarded to the Ministry of Finance for further quality checks before publication.
• External review of allocation and impact reporting	The Issuer has committed to an external verification of both the impact and allocation reporting.

Indicators for the allocation of proceeds

• Amount of proceeds	The Issuer has committed to reporting on the total proceeds from the issuance.
• Allocated proceeds	The Issuer will report the amount of allocated proceeds.
• Unallocated proceeds	The Issuer confirms that the project pool of eligible projects will always be larger than the proceeds from the green bond issuance. Therefore, the Issuer does not report on this indicator.
• Share of refinancing	The share of refinancing is 100%, as disclosed in the Framework.

Indicators for the sustainable impact

Reporting on risk management and ESG controversies	The Issuer has committed to reporting on risk management and ESG controversies.
Disclosure of the calculation logic and methodology	The Federal State of Baden-Wuerttemberg commits to disclosing the calculation methodology used in its impact report.

Indicators for sustainable goals and benefits	The selected environmental reporting indicators are considered relevant and significant by Ethifinance. The Issuer will demonstrate the expected positive impact of the financing activity using quantitative output and impact indicators. ⁹
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Project Category: Renewable Energy

Output indicators

- Generated liquid hydrogen (in tons)
- Additional battery storage facilities linked to photovoltaic systems
- Number of researchers in improved infrastructure

Impact indicators

- GHG emission reduction (tCO₂e)

Project Category: Energy Efficiency

Output indicators

- Additional broadband connections enabling behavioural change and business models without transport/mobility needs
- Energy savings from network access compared to conventional connections
- Length of supported heat networks (km)
- Number of on-site inspections and implemented measures in companies based on annual reporting
- Number of researchers in improved infrastructure

Impact indicators

- GHG emission reduction (tCO₂e)

Project category: Green Buildings¹⁰

Output indicators

- Reduced CO₂ emissions compared to “Nearly Zero-Energy Building”-standard
- Reduced CO₂ emissions compared to non-refurbished buildings

Impact indicators

- GHG emission reduction (tCO₂e)

Project category: Clean Transportation

Output indicators

- Number of diesel railcars replaced by electric railcars
- Number of supported electric vehicle programmes
- Absolute reduction in mobility-related emissions
- Increased use of public transport and bicycles

Impact indicators

- GHG emission reduction (tCO₂e)

Project Category: Climate Change Adaptation

Output indicators

- Increased forest surface area adapted to climate change (in square metres)
- Number of dialogue events
- Number of approved timber buildings

Impact indicators

- Improvement in climate resilience and carbon dioxide balance of forests
- Increase in scientific knowledge on transformative research and municipal sustainable concepts

⁹ The listed impact indicators are examples named by the Federal State of Baden-Wuerttemberg in its Framework. The Issuer will disclose more project specific impact indicators in its impact reporting.

¹⁰ EthiFinance recommends the inclusion of output indicators that show how many buildings have been built to relevant standards, broken down into renovations and new buildings.

Project Category: Sustainable Water and Wastewater Management

Output indicators

- Number of supported sewage measures
- Number of supported water supply measures
- Number of funded communities

Impact indicators

- Improvement in water quality

Project Category: Circular Economy Adapted Products, Production Technologies and Processes, and/or Certified Eco-efficient Products

Output indicators

- Number of experimental and industrial-scale pilot plants
- Number of future employees in new research buildings
- Future recovery potential of phosphorus (in t/a)

Impact indicators

- Reduction in water use (m³)

Project category: Pollution prevention and control

Output indicators

- Increased number of hybrid vehicles
- Capacity usage of express bus lines and number of passengers (in %)
- Zero CO₂ and NO_x emissions by using electric motorcycles
- Number of implemented remediation measures

Impact indicators

- Reduction of environmental and health hazards

Project category: Terrestrial and aquatic biodiversity conservation

Output indicators

- Increased surface area of subsidised vineyards (m²)
- Increased number of mapped or updated biotopes
- Number of individual projects and total area incorporated per year

Impact indicators¹¹

- Nature conservation
- Increased awareness of biodiversity

Project category: Terrestrial and aquatic biodiversity conservation

Output indicators

- Number of companies with organic production and the surface area of organic production
- Investments in properties important for environmental protection

Impact indicators¹²

- Enhancing biodiversity
- Preservation of resources

When reporting impact indicators, EthiFinance recommends increasingly including metrics recommended in ICMA's "Harmonised Framework for Impact Reporting".

¹¹ EthiFinance recommends specifying the impact indicators.

¹² EthiFinance recommends specifying the impact indicators.

Methodology

The present Second Party Opinion (SPO) was prepared according to the recognised and methodically secured procedures developed by EthiFinance. We have defined strict quality standards for all research activities and customer processes. The SPO is an independent external analysis of debt instruments (e.g., Green Bond/Loan, Social Bond/Loan, Sustainability Bond/Loan or Sustainability-linked Bond/Loan) aimed at financing sustainable development projects.

In order to produce a Second Party Opinion, EthiFinance examines the following modules:

1. The Issuer's ESG maturity
2. The level of compliance with the current version of the respective requirements (e.g., Green Bond Principles) and the sustainable impact of financed projects

1. The Issuer's ESG maturity

The Assessment of the "ESG maturity" consist of the following components:

- Assessment of ESG risk management: A customised, detailed assessment of ESG risk management in line with current sustainability requirements. In the SPO, the results of the assessment of policies and processes (none, some, or appropriate) and the quality of the risk management system (weak, moderate, good, or very good) are presented.
- Review of the compliance of the planned issuance with the sustainability strategy of the Issuer: The results of this review are presented qualitatively.
- Review of involvement in controversial business activities and practices: Controversial business activities include alcohol, tobacco, cannabis, gambling, pornography, hazardous chemicals, the fossil fuel industry, coal, unconventional oil and gas production, mining, nuclear energy, military/armaments, civilian firearms, green genetic engineering, and animal testing/animal welfare. The nuclear energy and gas sectors are not classified as controversial if they fully comply with the criteria of the EU Taxonomy. All controversial business activities are listed, regardless of a turnover threshold.

Controversial business practices include violations of internationally recognised sustainability standards, such as the UN Global Compact or the ILO core labour standards. The analysis covers the following areas: environmental damage, society, and corporate governance. EthiFinance categorises controversial business practices by their severity level: severity level 1, severity level 2, severity level 3, severity level 4, or severity level 5, and also takes into account the Issuer's response. Only controversial business practices with a severity level of 3, 4, or 5 are listed in the Second Party Opinion.

If controversial business practice are identified, the Issuer's ESG performance score will be impacted negatively: -10%, -20%, or -30%, depending on the severity level.

2. Level of compliance with the current version of the respective requirements

Following a detailed examination of the Issuer's framework, EthiFinance confirms whether an issuance complies with the latest version of the Green Bond Principles, Social Bond Principles, Sustainability Bond Guidelines, as well as the Green Loan Principles or Social Loan Principles.

For a positive assessment, the Issuer must transparently report on and comprehensibly implement the following components: (1) use of the proceeds, (2) process for project evaluation and selection, (3) management of the proceeds, and (4) reporting.

An Issuer can achieve the following outcomes for each core component and for the overall framework:

- Not Aligned
- Partially Aligned
- Aligned
- Best Practise

3. Sustainable impact of financed projects

To evaluate the impact of each of the projects identified by the Issuer, EthiFinance gives its opinion on different aspects:

- Relevance of the projects for the respective sector, country, and the sustainability strategy of the Issuer
- Compliance with relevant sector standards or taxonomy criteria and the management of potential project specific ESG risks

Rating scale:

- No impact
- Moderate impact
- Substantial impact
- High impact

Annex I: Impact Assessment

Renewable Energy

Green Impact – Renewable Energy

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following five projects are included in this GBP project category:

- Funding Program Climate Protection Plus
- HyFaB BW
- 'Real lab - Climate Connect Industrial Site Danube Valley (KliConn)
- 'Real lab - Climate neutral City of Reutlingen (Climate-RT-LAB)
- autoKite (fundamentals of automated kite flight as a driver for Airborne Wind Energy in the maritime domain)

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

	<p>The projects in this category relate to the production, acquisition, operation, distribution and transmission of renewable energy. The projects in this year’s issuance are focused on research into climate change mitigation for an industrial site and a city in the federal state. Additionally, research into the development of green hydrogen and funding for programmes aimed at reducing heating consumption are being refinanced. The Issuer’s projects align with Germany’s climate targets, which include the goal of reaching net-zero emissions by 2045.¹³ To achieve this, the energy transition will be key. According to the International Energy Agency (IEA), 100% of the country’s electricity supply will need to come from renewable sources by 2023. In 2023, 38% of Germany’s electricity was generated from renewable sources, highlighting the need to encourage investments and mobilisation of public and private actors in promoting renewable energy sources. Beyond traditional renewable energy sources like wind or solar, green hydrogen supply could also be a key leverage point.</p>
<ul style="list-style-type: none">• Sector/Industry	<p>In 2021, only 1% of global hydrogen output was produced from renewable sources, with natural gas and coal being the primary sources.¹⁴ Therefore, the sector requires significant public investments in research to improve efficiency and attractiveness.</p> <p>The programmes aimed at reducing heating consumption are also relevant for meeting Germany’s climate targets. According to the IEA, fossil fuels account for 63% of global energy use for buildings-related heating, making the shift to renewable-based heating particularly relevant.¹⁵</p>
<ul style="list-style-type: none">• Contribution to the Issuer's strategy	<p>The projects are highly relevant to the issuer's strategy and the strategy is clearly defined.</p> <p>Baden-Wuerttemberg has set ambitious targets in its climate law, including a 65% reduction in GHG emissions by 2030 (compared to 1990) and achieving climate neutrality by 2040. The federal state plans to meet these goals through improved</p>

¹³ IEA: <https://www.iea.org/countries/germany>
¹⁴ Irena: <https://www.irena.org/Energy-Transition/Technology/Hydrogen>
¹⁵ IEA: <https://www.iea.org/energy-system/buildings/heating>

energy efficiency, substantial energy savings, and the expansion of renewable energy and hydrogen.¹⁶

In 2020, the federal state approved a Hydrogen Roadmap, and by 2023, €500 million had been invested in research and development as well as industrial case studies to expand the state's hydrogen capacities.¹⁷

Level of Ambition

Three of the financed projects focus on research, demonstrating the federal state's commitments to investing in new technologies. Indeed, the federal state intends to fund two "real-world laboratories", where the goal is to provide the Danube Valley and the city of Reutlingen with specific measures to help these communities achieve their climate targets. These research programmes involve collaboration between the academic and private sectors to ensure the measures are as effective and widely applicable as possible. The projects focus on energy efficiency, mobility, and energy supply. However, EthiFinance is unable to fully assess the impacts of these projects due to limited information on the specific topics that will be addressed.

Additionally, the Issuer will use the proceeds to fund the "Climate Protect Plus Programme", which consists of three project categories focused on reducing heating consumption through CO₂ reduction, educational programmes, and energy-efficient renovations. The programme aims to assist municipalities, companies, and churches in upgrading or replacing their heating systems with more virtuous systems based on renewable energy. However, EthiFinance lacks information on the selection criteria for eligible projects, making it difficult to assess the overall impact of the programme.

- Durability of the impact and prevention of lock-ins

The federal state also intends to fund hydrogen-related projects:

- Partnership between the University of Stuttgart and OCEANERGY AG Stuttgart: This partnership focuses on researching how the automated operation of kites can generate green energy. The objective is to use wind energy at sea to produce green hydrogen. Large kite sails capture high-altitude winds, which are stronger. This wind energy drives onboard turbines, generating electricity, which is then used to produce hydrogen through electrolysis. The hydrogen is stored onboard or converted into e-fuels for delivery to terminals. The ships are mobile and automated, allowing them to navigate to optimal wind locations, significantly enhancing energy production efficiency. Their goal is to offer a more sustainable and cost-effective solution for hydrogen production compared to traditional methods.¹⁸
- Construction of a research factory dedicated to scaling up fuel cell-based products. Fuel cells produce low GHG emissions¹⁹ and have higher efficiency²⁰ than traditional combustion systems based on fossil fuels. For example, hydrogen fuel cells generate only water as a by-product, eliminating CO₂ emissions and addressing climate change. They also avoid producing air pollutants that contribute to smog and health issues²¹. However, since it is not

¹⁶ Baden-Wuerttemberg: <https://um.baden-wuerttemberg.de/en/topics/energy-transition>

¹⁷ Baden-Wuerttemberg: <https://um.baden-wuerttemberg.de/fileadmin/redaktion/m-um/intern/Dateien/documents/First-Progress-Report-on-the-Baden-W%C3%BCrttemberg-Hydrogen-Roadmap.pdf>

¹⁸ Ocean Energy: <https://www.oceanenergy.com/solution-harvest-wind-energy-deep-offshore-environment/>

¹⁹ DOE Hydrogen Programme: https://www.californiahydrogen.org/wp-content/uploads/files/doe_fuelcell_factsheet.pdf

²⁰ Office of Energy Efficiency & Renewable Energy: <https://www.energy.gov/eere/fuelcells/fuel-cells>

²¹ European Commission: https://joint-research-centre.ec.europa.eu/scientific-activities-z/hydrogen-electrolysers-and-fuel-cells-decarbonised-and-sustainable-europe-0_en

	<p>specified what type of hydrogen is used in the research, negative impacts could occur. If, for example, grey hydrogen is used, the impact is minimal, as it is typically produced from fossil natural gas via steam reforming, which produces around 10 tons of CO₂ per ton of hydrogen.²²</p> <p>EthiFinance is not able to assess the potential for new negative impacts or lock-in effects of these projects due to limited information. However, since 80% of the projects are R&D, EthiFinance believes that the best available technologies are being considered, offering the potential to generate positive long-term impacts.</p>
<ul style="list-style-type: none">Standards and criteria applied	<p>The project “autoKite” is eligible to the EU taxonomy activity “Close to Market Research, Development and Innovation”²³. However, it does not meet the TSC and is not aligned. The other projects are not eligible.</p>
<ul style="list-style-type: none">Negative externalities of the project category	<p>EthiFinance has identified a potential issue with the hydrogen-powered fuel cell project, where it is essential to ensure that the energy used to produce the hydrogen is renewable. Given that only 1% of global hydrogen production currently comes from renewable sources, this project could contribute to the continued use of fossil fuels.</p> <p>Due to the limited level of information provided to EthiFinance on the various projects, no other significant negative externalities have been identified for the projects in this category.</p>

²² BMBF: <https://www.bmbf.de/bmbf/shareddocs/kurzmeldungen/de/wissenswertes-zu-gruenem-wasserstoff.html>

²³ European Commission: [Close to market research, development and innovation](#)

Energy efficiency

Green Impact – Energy Efficiency

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following seven projects are included in this GBP project category:

- Regional Competence Centres of the Energy Efficiency Network (KEFF)
- Combined loan for SMEs with climate premium
- Energy-efficient heating networks
- Reallabor – CampUS hoch i
- KARLA – Karlsruhe Real-World Lab for Sustainable Climate Protection
- Climate-neutral production using Industry 4.0 solutions
- Broadband funding

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

- Sector/Industry

Energy efficiency-related projects are highly relevant within the context of Germany and Baden-Wuerttemberg, as they directly contribute to both national and regional energy and climate goals.

As Europe’s largest economy, energy efficiency is central to Germany’s climate and energy policies. The country aims to reduce primary energy consumption by 50% by 2050, with legally binding targets under the Climate Action Plan 2050.

Digitalisation and Industry 4.0 are also key components of Germany’s future industrial strategy. The national government has invested in smart grids, energy-efficient production, and broadband infrastructure, with a national broadband expansion target aiming for gigabit internet coverage by 2025.

Real-World Laboratories (Reallabor) are a German innovation designed to test and develop sustainable solutions in real-life settings. Germany’s “Reallabore der Energiewende” programme supports these initiatives, closely aligning with the Energy Efficiency Network (KEFF) and sustainable city projects. Initiatives like CampUS hoch i and KARLA support climate protection research and innovation, which are critical for cities and regions experimenting with climate-neutral approaches.

Energy efficiency projects are particularly relevant for Baden-Wuerttemberg, a leading industrial region with its own Climate Protection Law and Integrated Energy and Climate Concept (IEKK), targeting a 90% reduction in GHG emissions by 2050. The region’s strong industrial base, including numerous SMEs, makes financial tools such as climate premiums essential for decarbonising industries. SME financing enables businesses to invest in energy-efficient technologies, reducing both energy consumption and costs. Baden-Wuerttemberg has introduced regional financing programmes through institutions like Landesbank Baden-Wuerttemberg (LBBW) and other local financial institutions.

The region’s innovation clusters and university research systems, supporting initiatives like Reallabs, align with the federal state’s climate-neutral production and broadband expansion goals.

	<p>At the European level, the EU aims for widespread broadband access and digital tools, targeting gigabit connectivity for everyone by 2030. Broadband funding can indirectly improve energy efficiency, as it enables the adoption of smart technologies, like energy-efficient appliances and smart grids, which optimize energy consumption. The “State funding of broadband” project supports this goal by strengthening infrastructure essential for achieving these technological advancements in sustainability.</p>
<ul style="list-style-type: none"> Contribution to the Issuer's strategy 	<p>The projects are highly relevant to the Issuer’s overall strategy. Federal states have competencies in implementing federal regulations, developing regional policies and incentives, overseeing energy efficiency programmes, and supporting local industries and municipalities in meeting energy and climate targets.</p> <p>The focus on SME financing and real-world labs accelerates the practical implementation of climate-friendly solutions and sustainable economic growth. The Regional Competence Centres for Energy Efficiency (Action 23) and energy-efficient heating networks are aligned with the federal state’s goals of energy-efficient urban development and industrial decarbonisation.</p> <p>The “combined loan with a climate premium” is especially important for encouraging SMEs to adopt climate-friendly practices. Germany also offers substantial national funding for climate-related investments, such as through the KfW (Kreditanstalt für Wiederaufbau) bank.</p>

Level of Ambition

	<p>The level of ambition in this category is substantial, as all actions contribute to long-term energy savings, emission reductions, and technological advancement. The likelihood of lock-in effects is generally low or non-existent, as the actions prioritise future-proof, flexible solutions that adapt to evolving technologies and avoid dependence on unsustainable systems:</p>
<ul style="list-style-type: none"> Durability of the impact and prevention of lock-in effects 	<ul style="list-style-type: none"> By improving industrial energy efficiency and fostering collaboration, the impact of the Regional Competence Centres of the Energy Efficiency Network (KEFF) is long-lasting, as it leads to permanent reductions in energy use across industries. Additionally, KEFF encourages energy-efficient upgrades, reducing the chances of relying on outdated, inefficient systems. The “Combined loan for SMEs with climate premium” promotes investments in energy-efficient technologies, resulting in long-term lasting improvements in energy use. The probability of lock-in effects is low, as the loans incentivise green investments, making it unlikely that SMEs will invest in high-carbon technologies. Financing heating networks based on efficient or renewable sources tends to provide long-term reductions in emissions and operational costs. The lock-in effect is low, as these networks move away from fossil fuel-based heating, significantly reducing the likelihood of being locked into non-renewable systems. The impact report of the federal state shows that the broadband expansion project leads to a reduction in GHG emissions as well as energy savings compared to conventional technologies. This was confirmed by the Wuppertal Institute. The other actions demonstrate durable impact with minimal or no lock-in effects.

The impact of the energy efficiency related eligible projects within this category is assessed on the basis of the Technical Screening Criteria of the EU Taxonomy, when possible.

- Regional Competence Centres of the Energy Efficiency Network (KEFF): This project fully meets the relevant criteria outlined for the eligible activity 9.3 – *Professional Services Related to Energy Performance of Buildings*²⁴ in the EU Taxonomy for the environmental objective *Contribution to climate mitigation*.
- Combined loan for SMEs with climate premium: The project meets the description of the eligible activities 7.1 – *Construction of new Buildings*²⁵ and 7.2. – *Renovation of existing Buildings*²⁶, but does not align with the substantial contribution criteria for these activities for the environmental objective *Contribution to climate mitigation*.
- Standards and criteria applied
 - Reallabor – CampUS hoch i: The project fully meets the description of the eligible activity 9.1 – *Close to Market Research, Development and Innovation*²⁷ in the EU Taxonomy for the environmental objective *Contribution to climate mitigation*, but only partially meets the relevant criteria.
 - Energy-efficient heating networks: The project is eligible to the economic activity “District heating/cooling distribution” but does not meet the TSC.
 - The other projects are either not eligible or not listed in the EU Taxonomy.

Given that around 95% of total energy efficiency related expenditures are allocated to a non-eligible project (funding of broadband infrastructure), the overall environmental impact of this category could be considered as moderate, but the impact report shows that the project has major advantages over conventional technologies in terms of energy efficiency. Therefore, the overall environmental impact is considered as substantial.

- Negative externalities of the project category
 - KEFF may create inequitable access to resources for smaller businesses, as 30% of SMEs are unaware of efficiency programmes.²⁸ Additionally, reliance on consultants could inhibit the development of internal energy management capabilities.²⁹
 - The combined loan for SMEs could lead to unsustainable debt levels, with 15% of SMEs facing financing difficulties³⁰, and could distort competition by favouring better-equipped firms.³¹
 - For the energy-efficient heating networks project, initial infrastructure costs could increase consumer prices, estimated at between €5 and €20 million per project³², while installation may disrupt local communities, potentially reducing business revenues by up to 20% during construction.

²⁴ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/361/view>

²⁵ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/350/view>

²⁶ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/351/view>

²⁷ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/359/view>

²⁸ DIW Berlin: <https://www.diw.de/>

²⁹ BMWi: <https://www.bmwk.de/Redaktion/EN/Dossier/energy-efficiency.html>

³⁰ KfW: [https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-KfW-Mittelstandspanel/PDF-Dateien-Mittelstandspanel-\(EN\)/KfW-SME-Panel-2021.pdf](https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-KfW-Mittelstandspanel/PDF-Dateien-Mittelstandspanel-(EN)/KfW-SME-Panel-2021.pdf)

³¹ Zukunftsenergien Baden-Wuerttemberg: <https://zukunftsenergien.de/>

³² BDEW: <https://www.bdew.de/>

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- Reallabor projects may divert resources from other urban needs, with up to 25% of public funding potentially redirected to experimental initiatives³³, while local resistance to new technologies could generate social tensions.³⁴
 - KARLA's pilot projects may face operational challenges, with 20% encountering significant issues³⁵. Furthermore, the benefits may disproportionately favour wealthier communities, creating disparities in access to successful innovations.³⁶
 - The climate-neutral production using Industry 4.0 solutions programme could result in automation displacing up to 1.5 million jobs in traditional manufacturing by 2030³⁷, while increased demand for materials may rise by 30%³⁸, leading to environmental degradation.
 - Increased connectivity raises privacy concerns, with 60% of respondents expressing worries about data protection.³⁹
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³³ WZB: <https://www.wzb.eu/>

³⁴ KIT 2021: <https://www.kit.edu/>

³⁵ Fraunhofer Institute: <https://www.fraunhofer.de/en.html>

³⁶ Baden-Wuerttemberg Sustainability Strategy, 2022

³⁷ IAB: <https://iab.de/>

³⁸ WEF, Future of Jobs Report 2020.

³⁹ BSI : <https://www.bsi.bund.de/>

Green Buildings

Green Impact – Green Buildings

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following seven projects are included in this GBP project category:

- Particularly energy-efficient new buildings in the public building construction - for buildings less than 5000m²
- Particularly energy-efficient new buildings in the public building construction – for buildings larger than 5000m² with “Assessment System for Sustainable Buildings”
- Particularly energy-efficient new buildings in the public building construction - for buildings larger than 5000m² without “Assessment System for Sustainable Buildings”
- Particularly energy-efficient refurbishment measures in the public building construction
- Timber Construction Initiative BW
- New research building INATECH
- Energy-efficient State Housing Funding.

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

	<p>These projects are highly relevant within the context of Germany and Baden-Wuerttemberg.</p>
<ul style="list-style-type: none">• Sector/Industry	<p>Germany’s commitment to achieving a climate-neutral economy by 2045, through its energy transition goals (Energiewende), underscores the importance of energy-efficient building construction and refurbishment projects. Compliance with stringent regulations like the German Building Energy Act (EnEG) and the Energy Saving Ordinance (EnEV) requires high energy performance standards for buildings, driving sector-wide improvements. Buildings account for approximately 35% of the country’s total energy consumption⁴⁰, so enhancing their energy efficiency is vital for reducing national energy demand and greenhouse gas emissions. Additionally, the federal government allocates around €9 billion annually for energy efficiency programmes, underlining their significance in fostering investments and job creation within the construction sector.⁴¹</p> <p>In Baden-Wuerttemberg, the push for energy-efficient public buildings is crucial to achieving the federal state’s goal of climate neutrality by 2040, aligning with national objectives and supporting sustainable urban development. Initiatives such as the Timber Construction Initiative BW emphasise the use of sustainable materials and innovative methods, reinforcing the region’s leadership in green building practices. Public buildings account for about 40% of the region’s energy consumption⁴², indicating an urgent need for energy-efficient solutions in public infrastructure. The construction sector, which employs over 500,000 people⁴³, is vital to the regional economy, and investments in energy-efficient public buildings are expected to boost job creation and stimulate economic growth.</p>
<ul style="list-style-type: none">• Contribution to the Issuer's strategy	<p>The energy-efficient building projects in Baden-Wuerttemberg significantly advance the federal state’s strategy for achieving climate neutrality by 2040 and promoting sustainable urban development. These initiatives align with regional competencies in urban planning and construction regulation. The Timber</p>

⁴⁰ Bundesministerium für Wirtschaft und Klimaschutz: <https://www.bmwi.de/Redaktion/DE/Dossier/energiewende-im-gebaeudebereich.html>

⁴¹ KfW (Kreditanstalt für Wiederaufbau), 2022, Energieeffizienz im Gebäudebereich

⁴² Landesanstalt für Umwelt BW, 2022, Energieverbrauch in Baden-Württemberg

⁴³ Statistisches Landesamt BW, 2022, Wirtschaftsbericht Baden-Württemberg

Construction Initiative BW promotes innovative practices that enhance the region's reputation as a leader in green construction.

Level of Ambition

- The durability of environmental impacts varies among the projects. Energy-efficient new buildings and refurbishment measures in public construction provide high durability, significantly reducing energy consumption over their lifetimes and delivering lasting environmental benefits. Investments in energy-efficient state housing also offer long-term reductions in energy use and emissions, benefiting both residents and the environment.

The Timber Construction Initiative BW, however, has medium durability, as its long-term impact depends on continued adoption of sustainable practices. The new research building INATECH shows variable environmental impacts (in terms of energy efficiency, material usage), depending on its operational practices and technologies.
 - Durability of the impact and prevention of lock-in effects

The potential for lock-in effects also varies among these initiatives. Energy-efficient heating networks and the Timber Construction Initiative BW have a high potential for lock-in effects, as established heating systems may limit flexibility for future innovations, and an exclusive focus on timber could hinder exploration of other sustainable materials.

Particularly energy-efficient new buildings and refurbishment measures in public construction have a medium lock-in potential due to dependencies on specific techniques and energy solutions, although renovations allow for some adaptability. In contrast, the new research building INATECH and energy-efficient state housing funding exhibit low lock-in potential; the research facility promotes innovation and adaptability, while diverse financial support encourages multiple approaches to energy efficiency, reducing the risk of dependency on a single technology.
 - Standards and criteria applied

The impact of the eligible green building projects within this category is assessed based on the Technical Screening Criteria of the EU Taxonomy, where applicable.

 - Particularly energy-efficient new buildings in public construction: Compliance with the relevant criteria outlined for activity 7.7 - *Acquisition and ownership of buildings*⁴⁴, for the environmental objective *Contribution to climate mitigation*, depends on building size:

 - Criteria met for buildings less than 5000m²
 - Criteria met for buildings larger than 5000m² with "Assessment System for Sustainable Buildings"
 - Criteria not fully met for buildings larger than 5000m² without "Assessment System for Sustainable Buildings"
 - Particularly energy-efficient refurbishment measures in public construction: This project fully meets the description of the eligible activity 7.2. – *Renovation of existing Buildings*⁴⁵ under the EU Taxonomy, and the relevant criteria for for the environmental objective *Contribution to climate mitigation* are fully met.
 - New research building INATECH: The project fully meets the description of eligible activity 7.7 – *Acquisition and ownership of buildings*⁴⁶ under the EU
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⁴⁴ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/356/view>

⁴⁵ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/351/view>

⁴⁶ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/356/view>

Taxonomy, and the relevant criteria for the environmental objective *Contribution to climate mitigation* are fully met.

- Energy-efficient State Housing Funding: This project fully meets the description of eligible activity 7.1 – *Construction of new Buildings*⁴⁷ and 7.7 – *Acquisition and ownership of buildings*⁴⁸ under the EU Taxonomy, and the relevant criteria for the environmental objective *Contribution to climate mitigation* are fully met.
- The other projects are either not eligible or not listed in the EU Taxonomy.

Given that around 60% of total green buildings related expenditures are allocated to aligned projects, the overall environmental impact of this category is substantial.

- The particularly energy-efficient new buildings in public construction (Project 34) may face increased upfront costs due to advanced technologies and materials, potentially inflating public budgets. According to the German Federal Environment Agency, such projects may see cost premiums of 5 to 10% compared to conventional buildings.⁴⁹
 - Energy-efficient refurbishment measures in public construction (Project 35) may result in disruptions to ongoing operations and higher initial renovation costs, with studies indicating that energy-efficient refurbishments can increase costs by 20 to 30% compared to standard renovations.⁵⁰
 - Negative externalities of the project category
 - The Timber Construction Initiative BW (Project 53), while promoting sustainability, could increase resource demand for timber, potentially heightening deforestation risks if not properly managed. In fact, Germany's forestry sector saw a 5% rise in timber harvesting in 2020^{51 52}, raising concerns about sustainability under growing demand.
 - The new research building INATECH (Project 56) may consume significant energy due to its high-tech facilities, even if energy efficient. Research buildings can consume up to 50% more energy than conventional office spaces.⁵³
 - Energy-efficient state housing funding (Project 61) may inadvertently prioritise energy efficiency over affordability, raising construction costs and potentially limiting access for low-income families. A 2022 report by KfW highlighted that energy-efficient housing can increase construction costs by 10 to 15%, which could reduce the availability of affordable housing units.⁵⁴
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⁴⁷ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/350/view>

⁴⁸ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/356/view>

⁴⁹ Umweltbundesamt:

⁵⁰ Federal Ministry for Economic Affairs and Energy (BMWK): https://www.bmwk.de/Redaktion/EN/Publikationen/energy-efficiency-strategy-buildings.pdf?__blob=publicationFile&v=6%20%20%20

⁵¹ <https://www.bauen.de/>

⁵² Statista, 2022 - <https://www.statista.com/>

⁵³ Fraunhofer, 2021 - <https://www.ise.fraunhofer.de/>

⁵⁴ Kreditanstalt für Wiederaufbau (KfW): <https://www.kfw.de/>

Clean transportation

Green Impact – Clean transportation

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following 15 projects are included in this GBP project category:

- Fast Cycling Routes
- Cycling Routes on State Roads
- State initiative IV - market growth electromobility BW
- Funding of personnel in the field of sustainable mobility
- Support Program for Municipal Cycling and Pedestrian Infrastructure
- Cycling Routes Network
- Cycling Culture Initiative
- Establishment of express bus lines in the Stuttgart Region
- Electrification Hochrheinbahn
- Low-emission bus transportation
- GVFG Electrification Projects
- Combi-Solution City Railway Karlsruhe (GVFG Electrification Projects)
- Mobility Living Lab (MobiLab) Stuttgart
- ePolice fleet – battery-electric vehicles
- ePolice fleet - pedelecs

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

<ul style="list-style-type: none">• Sector/Industry	<p>The Issuer’s eligible projects make a significant contribution to the European Union’s climate targets. According to the European Environmental Agency (EEA), transport emissions represent around 25% of the EU’s total GHG emissions. Within the EU transport sector, road transport accounts for the highest proportion, at 76%.⁵⁵ In Germany, the transport sector accounts for 22% of GHG emissions but has achieved the lowest reduction in emissions compared to other sectors since 1990 (10.9%).⁵⁶ The EU Commission’s target is to reduce transport sector GHG emissions by 40% by 2030, compared to 2005 levels.⁵⁷ Baden-Wuerttemberg has set a more ambitious target, aiming for a 55% reduction in emissions by 2030, compared to 1990.⁵⁸</p> <p>Rising transportation demand between 2000 and 2019 adds complexity to meeting these reduction targets. For example, passenger traffic in the EU increased by 20% during this period.⁵⁹ Furthermore, Baden-Wuerttemberg’s freight transport</p>
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⁵⁵ European Environment Agency (2024): Transport and mobility. Key facts, in: <https://www.eea.europa.eu/en/topics/in-depth/transport-and-mobility?activeTab=fa515f0c-9ab0-493c-b4cd-58a32dfa0a0a&activeAccordion=dd2e16ef-4d34-48ae-bd38-31258544004d>

⁵⁶ Umweltbundesamt (2024): Klimaschutz im Verkehr, in: <https://www.umweltbundesamt.de/themen/verkehr/klimaschutz-im-verkehr#referenzentwicklung>

⁵⁷ Europäische Kommission: Verkehr. Maßnahmen der Kommission, in: https://commission.europa.eu/topics/transport_de

⁵⁸ Beteiligungsportal Baden-Wuerttemberg: Landeskonzzept Mobilität und Klima, in: <https://beteiligungsportal.baden-wuerttemberg.de/de/mitmachen/lp-17/landeskonzzept-mobilitaet-und-klima>

⁵⁹ See European Environment Agency (2024)

	concept anticipates a 41.3% increase in road freight transport by 2030, compared to 2010. ⁶⁰ The eligible projects in Baden-Wuerttemberg aim to expand the infrastructure for cycling, rail transport, and electromobility, as well as fund research into future mobility concepts, contributing significantly to the EU's climate goals.
<ul style="list-style-type: none"> Contribution to the Issuer's strategy 	The projects are highly relevant to the Issuer's strategy, which is clearly defined. The clean transportation project category aligns with the third guiding principle of promoting and implementing innovative, environmentally friendly, and social mobility concepts, and also contributes to the first two guiding principles.

Level of Ambition

<ul style="list-style-type: none"> Durability of the impact and prevention of lock-ins 	<p>The projects are designed to avoid negative impacts and lock-in effects, particularly in relation to climate change mitigation objectives. The chosen technologies have a long lifespan, allowing for sustained positive impacts. However, new sealing could negatively affect biodiversity. For example, estimates for Baden-Wuerttemberg suggest that nearly half of the settlement and traffic areas – approximately 237,622 hectares or 6.6% of the state's surface area – are sealed, which could also disrupt water balance by reducing the amount of rainwater able to seep into the ground.</p> <p>Additional lock-in effects could arise if more hybrid buses and cars are purchased instead of fully electric vehicles. Electric buses and cars have a better carbon footprint compared to hybrids.</p>
<ul style="list-style-type: none"> Standards and criteria applied 	<p>The eligible projects largely fulfil the specific Technical Screening Criteria (TSC) of the EU Taxonomy. Additionally, the Federal State of Baden-Wuerttemberg adheres to numerous EU directives and federal laws, many of which have been adapted at the federal state level, and thus meets most of the DNSH criteria of the EU Taxonomy for its projects.</p> <p>The following projects comply with the TSC and DNSH criteria for the economic activity "Infrastructure for Personal Mobility, Cycle Logistics": Fast Cycling Routes, Cycling Routes on State Roads, Support Programme for Municipal Cycling and Pedestrian Infrastructure, and Cycling Routes Network. For the economic activity "Urban and Suburban Transport, Road Passenger Transport", the projects "Electrification Hochrheinbahn", "GVFG Electrification Projects", "Combi-Solution City Railway Karlsruhe (GVFG Electrification Projects)" are compliant with the TSC and DNSH criteria.</p> <p>However, the projects "Establishment of Express Bus Lines in the Stuttgart Region", and "Low-Emission Bus Transportation" do not fully meet the TSC and DNSH criteria for "Urban and Suburban Transport, Road Passenger Transport". Similarly, the project "Mobility Living Lab (MobiLab) Stuttgart" does not fully meet the criteria for the economic activity "Close to Market Research, Development and Innovation".</p> <p>The project "ePolice Fleet" falls under two economic activities of the EU Taxonomy: "Transport by motorbikes, passenger cars, and light commercial vehicles" contains the purchase of battery-electric vehicles (Project 59a) and complies with the TSC, but is not fully meeting the DNSH criteria. The second activity is "Operation of personal mobility devices, cycle logistics" containing the purchase of pedelecs (Project 59b) and is fully meeting the TSC and DNSH criteria.</p>

⁶⁰ Ministerium für Umwelt, Klima und Energiewirtschaft: https://um.baden-wuerttemberg.de/fileadmin/redaktion/m-um/intern/Dateien/Dokumente/4_Klima/Klimawandel/AnpassungsstrategieBW-2023.pdf

	<p>The projects “State Initiative IV – Market Growth Electromobility BW” and “Funding of Personnel in the Field of Sustainable Mobility” are not eligible.</p>
<ul style="list-style-type: none"> Negative externalities of the project category 	<p>The projects themselves do not result in any additional negative effects. However, the positive impact of electromobility and rail transport depends on the availability of renewable energy to power the vehicles. In 2022, renewable energy accounted for 36.2% of electricity generation in Baden-Wuerttemberg.⁶¹ The federal state’s objective of achieving net greenhouse gas neutrality by 2040⁶² will further increase the impact.</p> <p>Potential negative effects could arise from an increase in e-waste related to electromobility. To counter these potential effects, the federal state has integrated waste and recycling management into numerous ordinances, regulations, and laws. The Circular Economy Act of Baden-Wuerttemberg plays a key role in addressing these concerns.</p>

⁶¹ Ministerium für Umwelt, Klima und Energiewirtschaft: https://um.baden-wuerttemberg.de/fileadmin/redaktion/mum/intern/Dateien/Dokumente/2_Presse_und_Service/Publikationen/Energie/Eneuerbare-Energien-2022.pdf

⁶² Ministerium für Umwelt, Klima und Energiewirtschaft: https://um.baden-wuerttemberg.de/fileadmin/redaktion/mum/intern/Dateien/Dokumente/2_Presse_und_Service/Publikationen/Energie/Eneuerbare-Energien-2022.pdf

Climate change adaptation

Green Impact – Climate Change Adaptation

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following two projects are included in this GBP project category:

- Funding Program Klimopass
- Silvicultural measures

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

	<p>The Issuer’s eligible projects can make an important contribution to the European Union’s climate targets. As global climate change will have far-reaching consequences for the environment, economy, and public health, it is crucial to develop measures to adapt to these changes. The Federal State of Baden-Wuerttemberg has prioritised this issue in its “Climate Protection and Climate Change Adaptation Act” and developed an adaptation strategy that is continuously updated.</p> <p>The expected effects of climate change on Baden-Wuerttemberg include heat waves, drought, heavy rainfall, and habitat changes⁶³, all of which are already noticeable. For example, the number of days per year exceeding 30 degrees Celsius has doubled to 10 (compared to the 1961-1990 period), extreme weather events such as flooding and hail have increased, flowering seasons are occurring earlier, and groundwater levels have sharply decreased due to persistent dry periods.⁶⁴</p> <p>To mitigate these developments, the Federal State of Baden-Wuerttemberg has established two projects eligible for funding. The “Funding Programme Klimopass” supports municipalities and companies in analysing adaptation potential and implementing measures such as installing drinking water dispensers. The state also supports afforestation and reforestation through the “Silvicultural Measures” project. Forests play a crucial role as natural carbon sinks and help regulate evaporation and water cycles, which in turn have a cooling effect on local climates. Hence, the global loss of forests is especially devastating in terms of climate protection and adaptation.⁶⁵ In 2022, forest areas accounted for 37.9% of Baden-Wuerttemberg’s total land area, according to the Federal Statistical Office.⁶⁶ These eligible projects therefore contribute significantly to the European Union’s climate targets.</p>
<ul style="list-style-type: none">• Sector/Industry	
<ul style="list-style-type: none">• Contribution to the Issuer's strategy	<p>The eligible projects align closely with the strategy of the Federal State of Baden-Wuerttemberg. The “forest and forestry” aspect is addressed in the state’s adaptation strategy and further detailed in a separate forest strategy that contains 21 goals for strengthening the forests.⁶⁷ The “Funding Programme Klimopass” is intended to assist municipalities and small and medium-sized enterprises in planning and implementing the first concrete steps towards climate change</p>

⁶³ Ministerium für Umwelt, Klima und Energiewirtschaft: https://um.baden-wuerttemberg.de/fileadmin/redaktion/m-um/intern/Dateien/Dokumente/4_Klima/Klimawandel/AnpassungsstrategieBW-2023-Kurzfassung.pdf

⁶⁴ Landeszentrale für politische Bildung Baden-Wuerttemberg: <https://www.lpb-bw.de/klimaschutz-bw#c70276>

⁶⁵ WWF: <https://www.wwf.de/themen-projekte/waelder/wald-und-klima/waelder-und-klimaschutz>

⁶⁶ Destatis: <https://www.destatis.de/DE/Themen/Branchen-Unternehmen/Landwirtschaft-Forstwirtschaft-Fischerei/Wald-Holz/Tabellen/waldflaeche-bundeslaender.html>

⁶⁷ Landesforstverwaltung Baden-Wuerttemberg: Waldstrategie Baden-Wuerttemberg 2050, in: https://mlr.baden-wuerttemberg.de/fileadmin/redaktion/m-mlr/intern/dateien/PDFs/Wald/2021-01-14_Waldstrategie.pdf

adaptation, aligning with the state's adaptation strategy at the municipal level. Adaptation to climate change also targets one aspect of the second guiding principle of climate protection, aiming to minimise ecological damage caused by climate change. These project categories, therefore, play a key role in helping to achieve Baden-Wuerttemberg's climate protection goals.

Level of Ambition

<ul style="list-style-type: none"> • Durability of the impact and prevention of lock-ins 	<p>The long-term benefits of the "Silvicultural Measures" project are largely guaranteed. Forests and trees can live for hundreds of years, providing ongoing environmental benefits and mitigating the effects of climate change. Potential lock-in effects, such as the introduction of non-native tree species, are addressed and minimised during the planning stage.</p> <p>For the "Funding Programme Klimopass" project, applicants are responsible for ensuring sustainability and avoiding potential lock-in effects during the planning stage. As the specific measures funded under this programme vary widely, potential lock-in effects cannot be fully ruled out in advance.</p>
<ul style="list-style-type: none"> • Standards and criteria applied 	<p>The "Silvicultural Measures" project meets both the Technical Screening Criteria and the DNSH criteria of the EU Taxonomy for the economic activities "Afforestation" and "Rehabilitation and Restoration of Forests, including Reforestation and Natural Forest Regeneration after an extreme Event".</p> <p>In the case of the "Funding Programme Klimopass" project, a comprehensive evaluation for all measures cannot be provided under the EU Taxonomy. However, the state of Baden-Wuerttemberg complies with numerous EU directives and federal laws, some of which have been adapted at the state level, which guide the concrete implementation of these projects.</p>
<ul style="list-style-type: none"> • Negative externalities of the project category 	<p>The positive effects of the "Silvicultural Measures" project depend on forest areas remaining free from damaging events such as bark beetle infestations or forest fires, which are likely to increase due to climate change. However, Baden-Wuerttemberg has a robust and extensive monitoring system in place to minimise these risks as much as possible.</p> <p>Due to the diverse range of measures funded by the "Funding Programme Klimopass", it is not possible to provide an overarching statement on the potential negative externalities of this project.</p>

Sustainable water and wastewater management

Green Impact – Sustainable water and wastewater management

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following two projects are included in this GBP project category:

- Sewerage infrastructure investments
- Water supply

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

	<p>These projects are highly relevant within the context of Germany and Baden-Wuerttemberg.</p> <p>In the German context, both projects are crucial due to the country’s commitment to environmental protection and sustainable water management. Germany invests approximately €5.6 billion annually in water and wastewater infrastructure, with €2.3 billion dedicated to public water supply and €3.3 billion for wastewater management.^{68 69} Projects aimed at improving wastewater systems and eliminating organic trace substances are essential for meeting the EU Water Framework Directive standards.</p> <p>In Baden-Wuerttemberg, the importance of these projects is heightened due to the region’s industrial activity and reliance on high-quality water resources. The federal state is a leader in innovative water treatment technologies, including the removal of micropollutants from wastewater.⁷⁰ Investments in structural improvements and cutting-edge processes are vital for Baden-Wuerttemberg to maintain a resilient and efficient water system.</p>
<ul style="list-style-type: none">• Sector/Industry/Territory	
<ul style="list-style-type: none">• Contribution to the Issuer's strategy	<p>The two projects – funding for public wastewater disposal and water supply – make a significant contribution to Baden-Wuerttemberg’s environmental and public health goals. Investments in wastewater treatment, such as eliminating micropollutants, improve water quality for over two million residents, aligning with the EU Water Framework Directive standards.⁷¹</p> <p>Similarly, improvements to the public water supply, including repairs and the adoption of innovative technologies, strengthen the infrastructure’s resilience to climate impacts.⁷² These projects support the federal state’s competencies in water management and sustainability.</p>

Level of Ambition

<ul style="list-style-type: none">• Durability of the impact and prevention of lock-in effects	<p>The durability of the impacts from the funding for public wastewater disposal and water supply projects is significant. Both initiatives focus on enhancing the structural integrity of the systems, contributing to long-term operational efficiency</p>
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⁶⁸ Federal Statistical Office of Germany (Destatis): <https://www.destatis.de>

⁶⁹ Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV): <https://www.bmu.de>

⁷⁰ Ministry of the Environment, Climate Protection and the Energy Sector Baden-Wuerttemberg: <https://um.baden-wuerttemberg.de>

⁷¹ Baden-Wuerttemberg Ministry of the Environment: <https://um.baden-wuerttemberg.de/>

⁷² AquaStrategy: <https://www.aquastrategy.com/>

and reduced maintenance costs. By eliminating organic trace substances from wastewater and ensuring a safe water supply, these projects improve local water quality and public health. Moreover, the funding for innovative water supply processes modernises the systems, enhancing their resilience against climate change impacts, such as flooding and storm damage. Adherence to the Water Management Funding Guidelines ensures that best practices are upheld, promoting sustainability.

Baden-Wuerttemberg employs strategies to prevent lock-in effects in these projects. The Water Management Funding Guideline⁷³ is regularly updated to incorporate new technologies and environmental considerations, avoiding reliance on outdated practices. Additionally, both projects integrate climate resilience features, reducing dependency on single solutions. By supporting innovative processes, the region encourages continuous improvement in public utility systems, minimising the risk of becoming entrenched in conventional methods. Engaging local communities and stakeholders in decision-making ensures diverse perspectives are considered, further mitigating the likelihood of lock-in effects.

The impact of the water and wastewater management-related eligible projects within this category is assessed based on the Technical Screening Criteria of the EU Taxonomy, where applicable

- Standards and criteria applied
 - Sewerage infrastructure investments: This project is aligned with the substantial contribution criteria outlined for the eligible activity “Urban Wastewater Treatment” for the environmental objective of contributing to water.
 - Water supply: This project is not aligned with the substantial contribution criteria outlined for the eligible activity “water supply” for the environmental objective of contributing to water sustainability, due to a lack of data to substantiate the project’s alignment with all the required Technical Screening Criteria for this activity.
- Negative externalities of the project category
 - Sewerage infrastructure investments: Despite improvements in wastewater management, risks such as leakages could result in untreated wastewater entering local water bodies. In Germany, around 25% of wastewater treatment plants are over 30 years old, increasing the likelihood of operational failures.⁷⁴ The costs related to water pollution, including health impacts, are estimated at approximately €2.5 billion annually in Germany.⁷⁵ Additionally, higher funding can lead to increased utility costs; for example, wastewater fees have risen by up to 30% in some municipalities over the past decade, disproportionately affecting lower-income households.
 - Water supply: Investments in public water supply systems can lead to the over-extraction of groundwater. In Germany, groundwater levels have dropped by over one metre in some areas in the past decade due to unsustainable extraction.⁷⁶ The German Association for Water Management, Wastewater and Waste (DWA) estimates that around €40 billion will be needed to maintain and upgrade existing water supply infrastructure over the next 20 years⁷⁷, which may increase consumer costs. Furthermore, projects such as dam construction can disrupt local ecosystems, contributing to habitat loss for

⁷³ Baden-Wuerttemberg’s Water Management Strategy: <https://um.baden-wuerttemberg.de/de/umwelt-natur/wasser>

⁷⁴ Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit: <https://www.umweltbundesamt.de/publikationen/bericht-des-bundesministeriums-fuer-gesundheit-des-4>

⁷⁵ Umweltbundesamt: https://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/daten-zur-umwelt_umweltmonitor-2020_webfassung_bf.pdf

⁷⁶ Bundesanstalt für Geowissenschaften und Rohstoffe: https://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/rohsit-2020.html

⁷⁷ DWA - <https://de.dwa.de/de/>

native species. Approximately 25% of freshwater fish species in Germany are threatened due to such alterations.⁷⁸

However, Baden-Wuerttemberg is well-positioned to address these negative externalities through its strict laws on biodiversity and water management. For instance, environmental impact assessments are mandatory, requiring detailed evaluations of potential impacts and outlining measures to mitigate or reduce those effects, ensuring more sustainable project implementation.

⁷⁸ BUND: <https://www.bund.net/meere/fischerei/>

Circular Economy

Green Impact – Circular economy adapted products, production technologies and processes, and/or certified eco-efficient products

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following three projects are included in this GBP project category:

- Industrial dismantling of battery modules and electric motors (DeMoBat)
- Phosphorus recovery from sewage sludge
- Sustainable Bioeconomy Strategy Baden-Wuerttemberg

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

	<p>These projects are highly relevant for addressing environmental issues in both the German and Baden-Wuerttemberg contexts.</p> <p>As Europe’s largest economy, Germany has a high demand for raw materials, especially due to its strong industrial sectors such as automotive, mechanical engineering, and construction. While Germany’s per capita raw material consumption (13.8 tons⁷⁹ in 2023) and waste generation (4.8 tons in 2020) are in line with the European average, the country leads in absolute raw material consumption and waste generation volumes. In 2021, Germany consumed approximately 1.3 billion tons⁸⁰ of raw materials (half of which were imported) and generated 411 million tons of waste, with around 56% coming from the construction sector. These figures account for nearly 20% of the EU-27 total.</p>
<ul style="list-style-type: none">• Sector/Industry	<p>Despite Germany’s high recycling rate (around 68% for municipal waste in 2021⁸¹), much of the recycled material is of low added value. National and local regulations mandate stringent technical standards and prohibit landfilling untreated waste, promoting reliable and environmentally friendly waste disposal methods.</p> <p>In Baden-Wuerttemberg, circular economy and resource efficiency projects are especially relevant. With approximately 180 million tons of annual raw material consumption, the federal state ranks third in Germany. As one of the country’s economic powerhouses, it is home to strong automotive, mechanical, electronics, and high-tech industries. A circular economy can help these sectors reduce costs associated with raw materials and waste management, mitigate dependence on volatile raw material prices, and improve their competitiveness. Additionally, the region is home to numerous research institutions and universities, fostering innovation in key areas of the circular economy, such as material recycling and sustainable product design.</p>
<ul style="list-style-type: none">• Contribution to the Issuer's strategy	<p>These projects are highly aligned with the Issuer’s overall strategy. Federal states in Germany hold key competencies in areas like regional development, investment promotion, support for SMEs and start-ups, and the management of natural resources and innovation. The government of Baden-Wuerttemberg sees bioeconomy as offering long-term opportunities for ecology, economy, and society.</p>

⁷⁹ Eurostat: https://ec.europa.eu/eurostat/databrowser/view/env_ac_rme/default/table?lang=en

⁸⁰ Statistisches Bundesamt (Destatis): https://www.destatis.de/EN/Themes/Society-Environment/Environment/Waste-Management/_node.html

⁸¹ European Environment Agency (EEA): <https://www.eea.europa.eu/en/analysis/indicators/waste-recycling-in-europe>

The industrial dismantling of battery modules and electric motors, along with advancing phosphorus recovery from sewage sludge, is strategically important for Baden-Wuerttemberg. These initiatives support resource efficiency, environmental protection, economic growth, regulatory compliance, and technological leadership, all while helping the state achieve its circular economy goals and capitalise on economic opportunities.

Level of Ambition

The ambition level of this category is substantial, as the projects adhere to globally recognised standards and are expected to yield long-term positive outcomes. However, some projects within this category carry risks of lock-in effects or unintended environmental and social consequences.

- Durability of the impact and prevention of lock-in effects
 - A research project focusing on developing automated processes for dismantling electric motors and end-of-life battery modules presents significant environmental benefits. Recycling lithium-ion batteries can save up to 50 to 75% of the energy required for new production, while recycling electric motors can save 40 to 60%.^{82 83} However, investments in current recycling technologies could lock the industry into existing battery chemistries, such as lithium-ion, while newer technologies (e.g., solid-state or sodium-ion batteries) evolve.
 - Financing the construction of pilot plants for phosphorus recovery from sewage sludge also presents significant environmental benefits, such as reducing dependence on mined phosphorus and mitigating eutrophication. However, investment in specific phosphorus recovery processes may create a technological lock-in for public entities, particularly if newer, more efficient technologies emerge. There is also the risk of economic lock-in, depending on the availability of sludge as a resource.
 - The federal state's bioeconomy strategy, which will receive significant funding under this category, holds considerable potential for advancing the shift towards a circular economy.

The impact of the circular economy-related eligible projects within this category is assessed based on the Technical Screening Criteria of the EU Taxonomy, where applicable.

- Standards and criteria applied
 - Industrial dismantling of battery modules and electric motors (DeMoBat): This project fully meets the description of eligible activity 9.1 – *Close to Market Research, Development and Innovation*⁸⁴ of the EU Taxonomy using TRL 6 technologies already demonstrated in the industry, focusing on circular economy activities like battery manufacturing and reuse. However, not all relevant criteria outlined for this activity are met for the environmental objective of contributing to climate mitigation.
 - Phosphorus recovery from sewage sludge: This project fully meets the description of the eligible activity *Phosphorus Recovery from Wastewater*⁸⁵ under the EU Taxonomy, as it finances the construction of pilot plants for phosphorus recycling from sewage sludge. The relevant criteria for this activity

⁸² *Recycling of batteries from electric vehicles* - Christian Hanisch et al. - *Journal of Industrial Ecology*, 2020.

⁸³ *Recycling of Electric Motors: Challenges and Opportunities* - International Copper Association (ICA), 2018.

⁸⁴ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/359/view>

⁸⁵ European Commission: <https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/389/view>

	are also fully met for the environmental objective of contributing to climate mitigation.
	<ul style="list-style-type: none"> The activity related to the federal state's bioeconomy strategy is not listed in the EU Taxonomy.
<ul style="list-style-type: none"> Negative externalities of the project category 	<ul style="list-style-type: none"> Industrial dismantling of battery modules and electric motors (DeMoBat): This project may pose occupational health and safety risks. Workers involved in dismantling may be exposed to harmful chemicals or heavy metals, leading to respiratory problems, skin issues, or long-term health conditions. Additionally, improper disposal of dismantled components can result in hazardous waste problems. If not managed properly, waste from these processes could end up in landfills, causing long-term environmental damage. Phosphorus recovery from sewage sludge: While this project offers significant environmental benefits, it requires careful management to minimise energy use (processes like thermal treatment can require around 3,000-4,000 kWh per ton of dry sludge⁸⁶, leading to significant CO₂ emissions if non-renewable energy is used). Chemical impacts (such as the addition of magnesium salts in the struvite precipitation process) and air emissions must also be managed carefully to optimise the process's environmental performance.

⁸⁶ *Energy Balance and Cost Efficiency of Different Sewage Sludge Treatment and Disposal Options* - David K. and others. - *Water Science & Technology*, 2015.

Pollution Prevention and Control

Green Impact – Pollution prevention and control

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following three projects are included in this GBP project category:

- Public Air Solutions - Filter Cubes
- Intelligent public transport in BW - digitally mobile nationwide
- Remediation of contaminated sites

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer's selection criteria, have not been assessed.

Relevance

	<p>This category focuses on initiatives aimed at reducing various forms of pollution, including air pollution, through measures such as the remediation of contaminated sites and implementing air quality solutions. The primary environmental objective is to contribute to pollution prevention and control, as well as to protect the environment from pollution.</p>
<ul style="list-style-type: none"> • Sector/Industry/Territory 	<p>The initiatives within this category are highly relevant in the context of both Germany and Baden-Wuerttemberg. The emphasis on pollution prevention and control directly addresses pressing environmental concerns, aligning with the broader goals of environmental protection and sustainable development. The impact report highlights that air pollution reduction measures, such as the installation of air filter cubes, have significantly improved air quality in heavily polluted areas, underscoring the critical need for such initiatives in the region.</p> <p>Baden-Wuerttemberg currently has 17,661 suspected contaminated sites, of which 2,772 have been confirmed. These sites are being continuously remediated through one specific project.</p>
<ul style="list-style-type: none"> • Contribution to the Issuer's strategy 	<p>The projects within this category exhibit a strong alignment with the Issuer's overarching strategy. They support the guiding principle of minimising environmental threats due to climate change. The focus on pollution prevention and control directly contributes to these strategic objectives.</p>

Level of Ambition

<ul style="list-style-type: none"> • Durability of the impact and prevention of lock-in effects 	<p>The projects in this category demonstrate a commendable level of ambition in terms of their potential for long-term impact and prevention of lock-in effects. The initiatives not only contribute to immediate pollution reduction but also lay the groundwork for sustained environmental benefits.</p> <p>The remediation of contaminated sites, for example, addresses long-standing pollution issues. To enhance the long-term impact, it is essential to continuously monitor and evaluate the effectiveness of these projects, integrating adaptive management strategies as necessary.</p>
<ul style="list-style-type: none"> • Standards and criteria applied 	<p>The project "Remediation of Contaminated Sites" meets the Technical Screening Criteria and some DNSH categories of the EU Taxonomy. However, the projects "Public Air Solutions – Filter Cubes" and "Intelligent Public Transport in BW – Digitally Mobile Nationwide" are not defined in the Delegated Act. Nonetheless, the</p>

	<p>Federal State of Baden-Wuerttemberg is bound by a range of EU directives and federal laws, many of which are specified at the federal state level, that govern the implementation of eligible projects.</p>
<ul style="list-style-type: none">• Negative externalities of the projects category	<p>While the projects primarily focus on pollution reduction, it is important to consider and proactively address potential negative externalities. Stakeholder engagement is essential in minimising these potential impacts. By involving local communities, businesses, and environmental organisations, the federal state can ensure transparency, address concerns, and foster collective efforts towards pollution prevention and control.</p> <p>In particular, for the planning of contaminated site remediation and the disposal of removed material, very strict legal requirements apply, such as the Federal Soil Protection Act (BBodSchG) and the State Circular Economy Act (LKreiWiG).</p>

Terrestrial and aquatic biodiversity conservation

Green Impact – Terrestrial and aquatic biodiversity conservation

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following six projects are included in this GBP project category:

- Biotope Mapping
- Non-productive investments in nature conservation
- Nature conservation contracts
- Expansion of the statewide biotope network
- Special Programme for Biodiversity
- Preserving steep-hill grassland

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

• Sector/Industry	These projects are highly relevant for the Federal State of Baden-Wuerttemberg as they address local environmental challenges and are aligned with federal state regulations. Biodiversity is a key issue for Baden-Wuerttemberg, where 50% of the land is agricultural and 39% is forested. Biodiversity loss in the state is driven by unsustainable resource use, such as intensive agriculture, unsustainable forestry, urbanisation, and pollution.
	In Germany, federal states play a significant role in preserving biodiversity due to their responsibility for nature conservation and landscape management. Several states, including Baden-Wuerttemberg, have developed biodiversity strategies or action plans to address these issues.
	The Biodiversity Strengthening Act, passed in 2020, is a landmark environmental law aimed at enhancing biodiversity and protecting natural ecosystems. Key measures include reducing pesticide use by 50% by 2030, expanding organic farming to cover 30% of the federal state's farmland by 2030, protecting habitats and species, supporting farmers, strengthening protected areas, and raising public awareness about biodiversity.
• Contribution to the Issuer's strategy	The projects in this category are highly relevant to the Issuer’s strategy, which is clearly defined.
	Baden-Wuerttemberg's Framework outlines its objectives for reducing GHG emissions by 65% by 2030 (compared to 1990 levels) and achieving climate neutrality by 2040. Biodiversity conservation plays a vital role in these goals, particularly through the carbon capture abilities of forests and agriculture, ^{87 88} In addition, the federal state has identified Biodiversity as one of its sustainability challenges in its strategy. Indeed, one of the guiding principles of its strategy relates directly to the subject: “Protecting and preserving the livelihood, diverse nature and unique cultural landscapes of the federal state and keeping the burden on humans, nature and the environment as low as possible beyond the state boundaries”.

⁸⁷ UNECE: <https://unece.org/forests/carbon-sinks-and-sequestration>
⁸⁸ Chesapeake Bay Foundation: <https://www.cbf.org/issues/agriculture/regenerative-agriculture.html>

Level of Ambition

	<p>The projects considered under this category are focused on the protection, maintenance and expansion of ecosystems. Through the issuance of this bond, the Issuer intends to continue the funding of existing programmes, such as the Special Biodiversity Enhancement Programme, in which, since 2018, €60 million were invested in more than 160 projects⁸⁹ related to the conservation of protected areas, the expansion of the biotope network, the reduction of the use of pesticides, or conservation of plants and animal etc.</p> <p>The federal state also plans to fund the expansion of the Biotope Network. A biotope network is a connected system of natural or semi-natural habitats designed to enable the movement and interaction of species, promoting biodiversity. The objective is for the network to cover 15% of the federal state area by 2030. According to the European Environment Agency, the survival rate of species is higher in ecosystems with high interconnectivity.⁹⁰ Therefore, projects related to the monitoring, expansion or conservation of the biotope network are considered to have a high impact on biodiversity.</p>
<ul style="list-style-type: none"> Durability of the impact and prevention of lock-ins 	<p>In another project, the proceeds will be used to provide subsidies to farmers to manage their land more sustainably with eligible projects such as the reversion from arable to grassland use (including grazing). Inspections on the completion of the objectives are to be carried out regularly. Grassland management practices generally offer a large range of environmental benefits, such as reduced soil erosion, biodiversity conservation, increased water quality, climate resilience⁹¹, or carbon sequestration⁹². This project is considered to have a high impact on biodiversity.</p> <p>Also the Issuer provides subsidies to farmers for the cultivation of inaccessible, deteriorated grassland. EthiFinance does not have information on the types of cultures that will be used on these lands and is, therefore, not able to assess the impact of this project.</p> <p>Overall, EthiFinance lacks information on the specific selection criteria of the projects that would be funded to appreciate the occurrence of new negative impacts and lock-in effects as well as their eligibility to the EU Taxonomy under the “Conservation, including restoration of habitats, ecosystems, and species” activity. Indeed, the federal state has defined eligible projects with broad descriptions, where, for instance, public relations related activities would be funded.</p>
<ul style="list-style-type: none"> Standards and criteria applied 	<p>The projects aim to adhere to the EU Taxonomy biodiversity objective under the activity: “Conservation, including Restoration, of Habitats, Ecosystems and Species”. The projects “Non-productive investments in nature conservation” and “Expansion of the statewide biotope network” are considered eligible but do not meet technical screening criteria.</p>
<ul style="list-style-type: none"> Negative externalities of the project category 	<p>Considering the limited information provided to EthiFinance, there have not been any important negative externalities for the projects of this category identified. The level of information provided did not allow for a thorough analysis, however, the federal state is obliged by law to conduct environmental impact assessments, has laws to prevent potential negative externalities, and, at the federal level, has a climate change adaptation strategy.</p>

⁸⁹ Baden-Wuerttemberg: <https://um.baden-wuerttemberg.de/de/umwelt-natur/biologische-vielfalt-und-mensch/sonderprogramm>

⁹⁰ EEA: <https://www.eea.europa.eu/help/glossary/gemet-environmental-thesaurus/biotope-network>

⁹¹ The Nature Conservancy: <https://www.nature.org/en-us/about-us/where-we-work/united-states/stories-in-mn-nd-sd/grasslands-impact-water-quality/>

⁹² FAO: https://www.fao.org/fileadmin/templates/agphome/documents/climate/AGPC_grassland_webversion_19.pdf

Environmentally sustainable management of living natural resources and land use

Green Impact – Environmentally sustainable management of living natural resources and land use

NO IMPACT	MODERATE IMPACT	SUBSTANTIAL IMPACT	HIGH IMPACT
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The following projects are included in this GBP project category:

- Investing in properties with importance for environmental protection
- Research Program Organic Farming
- Aid for pruning of meadow orchards
- Preserving manually cultivable vineyards
- Organic Model Regions BW
- Organic Farming

The analysis of the impact is based on the projects refinanced for the next Green Bond issuance. Other eligible projects, according to the Issuer’s selection criteria, have not been assessed.

Relevance

	<p>The projects are relevant to the environmental issues faced by the federal state of Baden-Wuerttemberg. For several decades biodiversity loss has accelerated and tackling it has become one of the most pressing global issues. Baden-Wuerttemberg is home to large animal and vegetal diversity, with more than 50,000 different species counted. The number of species originally present has, however, fallen sharply over the past 50 years.⁹³</p>
<ul style="list-style-type: none">Sector/Industry/Territory	<p>The promotion and development of more sustainable agricultural management practices is of utmost importance for Germany. Almost half of German territory is covered by agricultural land⁹⁴ and some agricultural practices, such as mechanised tilling, harvesting, and the use of fertilizers and pesticides, impact the health of soil, water, and air, and thus animal and vegetal diversity, which highlight the need to increase sustainable practices in farming.</p> <p>To tackle the impact of economic activities on biodiversity, the European Union adopted the biodiversity strategy for 2030 as part of the Green Deal. The strategy contains specific actions and commitments such as the nature restoration law adopted in June 2024 by the European Council. The regulation for example recognises the need to improve biodiversity on agricultural land by promoting practices such as organic farming or designing attractive funding schemes for farmers and land managers to engage in practices delivering long-term benefits for restoration⁹⁵ in line with the objective of the projects for this category.</p>
<ul style="list-style-type: none">Contribution to the Issuer's strategy	<p>The project is highly relevant to the Issuer’s strategy, which is clearly defined. At state level, Baden-Wuerttemberg has made conservation of biodiversity a priority of its environmental policy and has had a programme in place to reverse biodiversity loss since 2017. The federal state also established several targets related to the projects in this category such as increasing the proportion of organic</p>

⁹³ Baden-Wuerttemberg: <https://www.baden-wuerttemberg.de/de/bw-gestalten/nachhaltiges-baden-wuerttemberg/naturschutz/biodiversitaet/>
⁹⁴ Umweltbundesamt: <https://www.umweltbundesamt.de/en/topics/agriculture/ecological-impact-of-farming>
⁹⁵ European Parliament: <https://data.consilium.europa.eu/doc/document/PE-74-2023-INIT/en/pdf>

farming to 30 to 40% by 2030, reducing synthetic chemical pesticides by 40 to 50% for the preservation of orchards.⁹⁶

Level of Ambition

<ul style="list-style-type: none">• Durability of the impact and prevention of lock-ins	<p>The projects in this category are of very diverse nature, ranging from acquiring areas for conservation and restoration to implementing organic food value chains. Investing in properties of environmental significance with the aim of conservation or restoration has the potential to improve biodiversity in Baden-Wuerttemberg in a sustainable manner, especially as acquisitions are made on a permanent basis and typically in protected areas.</p> <p>The other projects also have the potential for a lasting impact on biodiversity by financing research, developing organic product value chains, promoting organic farming practices in the Federal State, or encouraging more sustainable cultivation methods.</p> <p>There are no significant lock-in effects for this category.</p>
<ul style="list-style-type: none">• Standards and criteria applied	<p>The projects aim to adhere to the technical screening criteria outlined in the EU Taxonomy, and particularly the criteria of the category “Conservation, including Restoration, of Habitats, Ecosystems and Species”. However, the projects in this category can be compared to agricultural activities, or promotion of organic practices which are not activities covered by the EU Taxonomy. The exception is the project “Investing in properties with importance for environmental protection”, but it does not meet the TSC of the EU taxonomy.</p>
<ul style="list-style-type: none">• Negative externalities of the project category	<p>Based on the information provided to EthiFinance, no significant externalities have been identified for the projects in this category. Although the level of information provided did not allow for a thorough analysis, the federal state is legally required to conduct environmental impact assessments and has laws in place to prevent potential negative externalities. At the state level, Baden Wuerttemberg has also implemented a climate change adaptation strategy.</p>

⁹⁶ Baden-Wuerttemberg: <https://www.baden-wuerttemberg.de/de/bw-gestalten/nachhaltiges-baden-wuerttemberg/naturschutz/biodiversitaet/>

Annex II: EU Taxonomy Assessment

EthiFinance has reviewed the compliance of the refinanced projects of the federal state of Baden-Wuerttemberg with the requirements of the EU Taxonomy.⁹⁷ To this end, EthiFinance assessed the project descriptions, the project selection processes, and the due diligence procedures. The assessment was conducted based on the technical screening criteria for the respective environmental objectives of each specific project, the criteria for avoiding significant harm to other relevant environmental objectives, and the minimum social standards. The evaluation was based on information provided by the Issuer.

EthiFinance evaluated the projects in the following Green Bond Principles categories:

- Renewable Energy
- Energy Efficiency
- Green Buildings
- Clean Transportation
- Climate Change Adaptation
- Sustainable Water and Wastewater Management
- Circular Economy
- Pollution Prevention and Control
- Terrestrial and Aquatic Biodiversity Conservation
- Environmentally Sustainable Management of Living Natural Resources and Land Use

The projects fall under the following economic activities of the EU Taxonomy:

- Environmental Protection and Restoration Activities: Conservation, including Restoration, of Habitats, Ecosystems and Species
- Forestry: Afforestation; Rehabilitation and Restoration of Forests, including Reforestation and Natural Forest Regeneration after an extreme Event
- Professional, Scientific and Technical Activities: Close to Market Research, Development and Innovation; Professional Services Related to Energy Performance of Buildings
- Construction and Real Estate Activities: Acquisition of and Ownership of Buildings; Construction of new Buildings; Renovation of existing Buildings
- Transport: Infrastructure for Personal Mobility, Cycle Logistics; Infrastructure for Rail Transport; Operation of Personal Mobility Devices, Cycle Logistics; Transport by Motorbikes, Passenger Cars and Light Commercial Vehicles; Urban and Suburban Transport, Road Passenger Transport
- Water Supply, Sewerage, Waste Management and Remediation: Phosphorus Recovery from Wastewater; Remediation of Contaminated Sites and Areas; Urban Wastewater Treatment;

⁹⁷ [Regulation \(EU\) 2020/852](#) and [Delegated Regulation \(EU\) 2021/2139](#)

Overview

The following pages first provide an overview of all project categories and their associated projects, before offering a more detailed analysis of the projects and their alignment with the taxonomy.

Project category	Projects ⁹⁸	Alignment of projects
Renewable Energy	16_Funding Program Climate Protection Plus 28_HyFaB BW 38_autoKite (fundamentals of automated kite flight as a driver for Airborne Wind Energy in the maritime domain) 42_Real lab - Climate Connect Industrial Site Danube Valley (KliConn) 43_Real lab - Climate neutral City of Reutlingen (Climate-RT-LAB)	Eligible projects: 1/5 (38) Substantial contribution criteria compliant projects: 0/1 DNSH compliant projects: 0/1 Alignment: 0/1
Energy Efficiency	23_Regional centers of excellence for energy efficiency 24_Combi loan for SMEs with climate bonus 25_Energy-efficient heat networks 40_Real lab - CampUS to the power of i 41_KARLA - Karlsruhe Real Lab Sustainable Climate Protection 58_Climate-neutral production using Industry 4.0 solutions 60_State funding of broadband	Eligible projects: 3/7 (23/25/40) Substantial contribution criteria compliant projects: 1/3 DNSH compliant projects: 0/3 Alignment: 0/3
Green Buildings	34a_Notably energy-efficient new buildings in the public building construction- for buildings less than 5000m ² 34b_Notably energy-efficient new buildings in the public building construction – for buildings larger than 5000 m ² with “Assessment System for Sustainable Buildings” 34c_Notably energy-efficient new buildings in the public building construction – for buildings larger than 5000 m ² without “Assessment System for Sustainable Buildings” 35_Notably energy-efficient restructuring measures in the public building construction 53_Timber Construction Initiative BW 56_New research building INATECH 61_Energy-efficient State Housing Funding	Eligible projects: 6/7 (34a/34b/34c/35/56/61) Substantial contribution criteria compliant projects: 5/6 DNSH compliant projects: 4/6 Alignment: 3/6 Aligned projects: 34a/34b/56

⁹⁸ Numbers from 1-61 are integrated into the project names. This numbering is based on last year's issuance by the Federal State of Baden-Württemberg. This year, only 56 projects were evaluated, which is why not all numbers from 1-61 appear in the project names.

Clean Transportation	01_Fast Cycling Routes 02_Cycling Routes on State Roads 03_State initiative IV - market growth electromobility BW 06_Funding of personnel in the field of sustainable mobility 07_Support Program for Municipal Cycling and Pedestrian Infrastructure 08_Cycling Routes Network 09_Cycling Culture Initiative 10_Establishment of express bus lines in the Stuttgart Region 11_Electrification Hochrheinbahn 12_Low-emission bus transportation 13_GVFG Electrification Projects 14_Combi-Solution City Railway Karlsruhe (GVFG Electrification Projects) 44_Mobility Living Lab (MobiLab) Stuttgart 59a_ePolice fleet – battery-electric vehicles 59b_ePolice fleet – pedelecs	Eligible projects: 12/15 (01/02/07/08/10/11 12/13/14/44/59a/59b) Substantial contribution criteria compliant projects: 9/12 DNSH compliant projects: 8/12 Alignment: 8/12 Aligned projects: 01/02/07/08/ 11/13/14/59b
Climate Change Adaptation	17_Funding Program Klimopass 52_Silvicultural measures	Eligible projects: 1/2 (52) Substantial contribution criteria compliant projects: 1/1 DNSH compliant projects: 1/1 Alignment: 1/1 Aligned projects: 52
Sustainable Water and Wastewater Management	21_Sewerage infrastructure investments 22_Water supply	Eligible projects: 2/2 (21/22) Substantial contribution criteria compliant projects: 1/2 DNSH compliant projects: 0/2 Alignment: 0/2
Circular Economy	18_Industrial dismantling of battery modules and electric motors (DeMoBat) 19_Phosphorus recovery from sewage sludge 51_Bioeconomy Strategy BW	Eligible projects: 2/3 (18/19) Substantial contribution criteria compliant projects: 1/2 DNSH compliant projects: 0/2 Alignment: 0/2
Pollution Prevention and control	5_Public Air Solutions - Filter Cubes 15_Intelligent public transport in BW - digitally mobile nationwide 20_Remediation of contaminated sites	Eligible projects: 1/3 (20) Substantial contribution criteria compliant projects: 1/1 DNSH compliant projects: 0/1 Alignment: 0/1
Terrestrial and Aquatic Biodiversity Conservation	29_Biotope Mapping 30_Non-productive investments in nature conservation 31_Nature conservation contracts 32_Expansion of the statewide biotope network	Eligible projects: 2/6 (30/32) Substantial contribution criteria compliant projects: 0/2

	33_Special Programme for Biodiversity 49_Preserving steep-hill grassland	DNSH compliant projects: 2/2 Alignment: 0/2
Environmentally Sustainable Management of Living Resources and Land Use	36_Investing in properties with importance for environmental protection 47_Research Program Organic Farming 48_Aid for pruning of meadow orchards 50_Preserving manually cultivable vineyards 54_Organic Model Regions BW 55_Organic Farming	Eligible projects: 1/6 (36) Substantial contribution criteria compliant projects: 0/1 DNSH compliant projects: 0/1 Alignment: 0/1
All categories	Total number of projects: 56	Eligible projects: 31/56 Substantial contribution criteria compliant projects: 19/31 DNSH compliant projects: 15/31 Alignment: 12/31

Renewable Energy

The Issuer provided information to proof its compliance of the refinanced projects in the project category “Renewable Energy” with the technical screening criteria and the criteria to avoid significant harm of the EU Taxonomy. After analysing this information, EthiFinance comes to the following conclusions:



Project 16: Funding Program Climate Protection Plus

Short description of the project: The state indicated that it would fund three subcategories of projects: CO₂ reduction programs, educational programs and energy-efficient renovations.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed⁹⁹

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable


Project 28: HyFaB BW

Short description of the project: Research concerning automated processes for production and quality assurance along the value chain for fuel cells to be developed and tested in order to explore the path from today's largely handcrafted production to industrial mass production.

Environmental objective pursued: Climate change mitigation


EU Taxonomy activity: Not listed¹⁰⁰

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU-Taxonomy – Not applicable

⁹⁹ Overall, the project is not eligible to the EU taxonomy as one sub-category "Educational programs" is not eligible, the issuer would gain to separate the activities. The CO₂ reduction program would be eligible with the EU taxonomy activity "Installation, maintenance and repair of energy efficiency equipment" and "Energy-efficient renovations" would be eligible with "Renovation of existing buildings". The project activity is therefore classified as “not listed”.

¹⁰⁰ The EU Taxonomy requires the program to focus on specifically identified solutions at a testing phase TRL level 6. But the consulting tools/services developed from HyFab have not been assigned to a TRL yet.

Do no significant harm criteria		Activity not listed in the EU-Taxonomy – Not applicable
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Project 38: autoKite (fundamentals of automated kite flight as a driver for Airborne Wind Energy in the maritime domain)

Short description of the project: In the autoKite project, the University of Stuttgart is researching the scientific basis for the automated operation of kites to generate green electrical energy. The necessary technology for this application is being developed in collaboration with the start-up OCEANERGY AG Stuttgart.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Close to Market Research, Development and Innovation¹⁰¹

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project does not meet the substantial contribution criteria outlined for “Close to market research, development and innovation” under the environmental objective of climate mitigation because the Issuer cannot provide data for life-cycle analysis (TSC 3), and there is insufficient information to confirm compliance with the Technical Screening Criteria and Do Not Significant Harm Criteria of all enabling activities of the project.
Do no significant harm criteria		The project does not comply with the DNSH criteria for the environmental objectives of climate adaptation, water, circular economy, pollution prevention and biodiversity.

Project 42: Real lab - Climate Connect Industrial Site Danube Valley (KliConn)

Short description of the project: The central objective of the KliConn real-world laboratory is to develop an overarching climate protection strategy for the Danube Valley industrial area by 2030 and to develop targeted measures to achieve the climate targets in the areas of energy/heat, mobility, education and infrastructure/employees.



Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹⁰²

Status: NOT ELIGIBLE

¹⁰¹ [Close to market research, development and innovation](#)

¹⁰² The federal state of Baden-Württemberg has assigned the activity “Close to market research, development and innovation” to this project. However, as the project represents the creation of a concept or strategy and not the development of a specific product for which a TRL (Technology Readiness Level) can be identified, EthiFinance cannot assign this project to this activity. The project activity is therefore classified as “not listed”.

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU-Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU-Taxonomy – Not applicable



Project 43: Real lab - Climate neutral City of Reutlingen (Climate-RT-LAB)

Short description of the project: The Climate-RT-LAB real-world laboratory researches, supports, and guides the city of Reutlingen's transformation process toward achieving climate neutrality. The project focuses on four key areas: energy supply, buildings and businesses, mobility, and organisation and action.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹⁰³

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU-Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU-Taxonomy – Not applicable

¹⁰³ The state of Baden-Württemberg has assigned this project to the "Close to market research, development and innovation" activity. This is a very comprehensive project in which, for example, a large number of energy analyses for buildings were carried out. Due to the lack of detail, it is not possible for EthiFinance to identify which analyses led to specific activities that EthiFinance could evaluate in terms of the Technical Screening Criteria for the aforementioned activity. The project activity is therefore classified as "not listed".

Energy Efficiency

The issuer provided information to proof its compliance of the refinanced projects in the project category “Energy efficiency” with the technical screening criteria and the criteria to avoid significant harm of the EU taxonomy. After analyzing this information, EthiFinance comes to the following conclusions:



Project 23: Regional centers of excellence for energy efficiency

Short description of the project: This project consists in financing twelve Energy Efficiency Network (KEFF) in charge of informing and sensitising companies free of charge on the topics of energy and energy efficiency.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Professional Services Related to the Energy Performance of Buildings¹⁰⁴

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project complies with the substantial contribution criteria lined out for 9.3 – <i>Professional services related to energy performance of buildings</i> for the environmental objective <i>Contribution to climate mitigation</i>.</p> <p>The KEFF provide technical services such as energy-efficiency audits for SMEs, identifying potential improvements in energy efficiency in areas like technical building equipment, cross-sectional technologies, and production processes.¹⁰⁵ This type of activity is among those listed in the EU Taxonomy.</p>
Do no significant harm criteria		<p>The project does not comply with the DNSH Criteria for the environmental objective <i>Climate adaptation</i>, as more information is needed on how climate-related risks and vulnerabilities are evaluated and addressed for these activities. EthiFinance considers that Appendix A (DNSH Criteria for Climate Change Adaptation) applies to KEFF, requiring them to assess climate risks for energy efficiency projects and integrate resilience measures. KEFF must ensure that their solutions do not increase vulnerability to climate impacts and that they promote long-term climate resilience in energy-efficient upgrades.</p>

¹⁰⁴ [Professional services related to energy performance of buildings](#)

¹⁰⁵ Internal documentation of the Federal State of Baden-Wuerttemberg



Project 24: Combi loan for SMEs with climate bonus

Short description of the project: The “Combined Loan for SMEs with Climate Premium” funding is designed to promote investment incentives for energy-efficient projects, such as energy-efficient renovations or the construction of new, efficient commercial buildings. This funding includes an additional repayment subsidy (the climate premium) provided by the state and the L-Bank.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹⁰⁶

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not eligible to the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not eligible to the EU Taxonomy – Not applicable


Project 25: Energy-efficient heat networks

Short description of the project: The programme focuses on promoting investments in the construction or expansion of energy-efficient heating networks in cities. The funding aims to encourage the development of efficient, low-loss heating systems that utilise renewable energy sources, waste heat, or highly efficient combined heat and power (CHP) systems.

Environmental objective: Climate change mitigation


EU Taxonomy activity: District heating/cooling distribution¹⁰⁷

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project does not comply with the substantial contribution criteria lined out for district heating/cooling distribution for the environmental objective climate change mitigation.</p> <p>Article 2(41) of Directive 2012/27/EU requires a district heating or cooling system using at least 50 percent renewable energy. There is insufficient information available to demonstrate compliance with this threshold.</p>

¹⁰⁶ EthiFinance does not have clear information to verify the level of requirement and/or the systematic nature of the eligibility criteria for financing regarding the energy performance of construction or renovation projects.

¹⁰⁷ [District heating/cooling distribution](#)

Do no significant harm criteria		The project does not comply with the DNSH-criteria for the environmental objective's climate adaptation, water, pollution and biodiversity.
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Project 40: Real lab - CampUS to the power of i

Short description of the project: By financing a “Real-world laboratory Campus”, this project aims to increase scientific knowledge on climate-neutral properties, enhance cooperation between science and practitioners, integrate findings into educational programmes, and involve underrepresented stakeholders, such as tenants, in climate-neutral building renovations.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Close to Market Research, Development and Innovation¹⁰⁸

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project partially complies with the substantial contribution criteria lined out for 9.1 – <i>Close to market research, development and innovation</i> for the environmental objective <i>Contribution to climate mitigation</i>.</p> <p>According to the project profile¹⁰⁹, the project uses and develops commercially available technologies that comply with TRL 6 (e.g. adaptive sensors and systems, aerogel high-performance insulating plasters). In addition, this research programme is oriented towards climate-neutral solutions for the construction of new buildings and the renovation of existing buildings, two activities that are eligible to the EU Taxonomy.</p> <p>However, if the research programme aims to enable buildings to meet the respective TSC for these two activities, compliance with the relevant DNSH Criteria is assumed but not explicitly justified by the Issuer. With the exception of climate mitigation (GWP), Baden-Wuerttemberg does not reference any documentation that could quantify whether the research project avoids causing significant harm to other environmental objectives. For example, a life cycle assessment (LCA) was not conducted as part of the project.</p>
Do no significant harm criteria		The project does not comply with the DNSH Criteria for the environmental objectives of <i>Climate adaptation, water, circular economy, pollution prevention and biodiversity</i> . To meet the DNSH

¹⁰⁸ [Close to market research, development and innovation](#)

¹⁰⁹ Internal documentation of the Federal State of Baden-Wuerttemberg

		Criteria, more information is needed on how risks and vulnerabilities related to climate, water quality, circular economy, air, water, land pollution and biodiversity are evaluated and addressed in the researched activities.
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Project 41: KARLA - Karlsruhe Real Lab Sustainable Climate Protection

Short description of the project: The KARLA project researches and supports the implementation of climate protection measures from the “Karlsruhe Climate Protection Concept 2030.” It focuses on developing advisory tools for business travel and sustainability assessment of municipal climate actions. The project also conducts transformation experiments on selected measures and aims to establish a “climate pact” between Karlsruhe universities and the city.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹¹⁰

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not eligible to the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not eligible to the EU Taxonomy – Not applicable

Project 58: Climate-neutral production using Industry 4.0 solutions

Short description of the project: This project is a funding programme for climate-neutral production using Industry 4.0 solutions. The funding aims to support projects that reduce energy demand, emissions, and resource use, optimise production, and integrate new technologies into existing processes for greater efficiency and sustainability.



Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹¹¹

Status: NOT ELIGIBLE

¹¹⁰ The project is not eligible for the EU Taxonomy as it does not fully meet the definition/description criteria outlined for 9.1 – *Close to market research, development and innovation*, for the environmental objective *Contribution to climate mitigation*. According to the project profile, while this research focuses on developing solutions aimed at reducing GHG emissions, the EU Taxonomy requires the programme to target specifically identified solutions that have reached a testing phase at TRL 6. However, the consulting tools/services developed through KARLA have not yet been assigned a TRL.

¹¹¹ The project is not eligible for the EU Taxonomy as it does not fully meet the definition/description criteria outlined for 9.1 – *Close to market research, development and innovation*, for the environmental objective *Contribution to climate mitigation*. According to the project profile, while this research focuses on developing solutions aimed at reducing GHG emissions, the EU Taxonomy requires the programme to target specifically identified solutions that have reached a testing phase at TRL 6. However, the Industry 4.0 solutions developed from this project have not yet been assigned a TRL.

	Compliance	Reasoning
Substantial contribution criteria		Activity not eligible to the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not eligible to the EU Taxonomy – Not applicable



Project 60: State funding of broadband

Short description of the project: This project involves financing municipalities and associations of municipalities for the expansion of wired broadband infrastructure and underground cable network construction.¹¹²

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

¹¹² Internal documentation of the Federal State of Baden-Wuerttemberg

Green Buildings

The Issuer provided information to demonstrate the compliance of the refinanced projects in the “Green buildings” category with the Technical Screening Criteria and the criteria to avoid significant harm of the EU Taxonomy. After analysing this information, EthiFinance has reached the following conclusions:



Project 34a: Notably energy-efficient new buildings in the public building construction – for buildings less than 5000m²

Short description of the project: This project relates to new construction measures being implemented by the Federal state as owner and builder. A total of 51 individual measures are involved and approximately 15% of expenditures of them in buildings smaller than 5,000 m².

Environmental objective: Climate change mitigation

EU Taxonomy activity: Acquisition and Ownership of Buildings^{113 114}

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project complies with the substantial contribution criteria outlined for 7.7 – <i>Acquisition and ownership of buildings</i> for the environmental objective <i>Contribution to climate mitigation</i>. According to the framework¹¹⁵, all new buildings involved in this project were constructed after 31 December 2020.</p> <p>As stated in the project profile¹¹⁶, and as required by the EU Taxonomy, the annual primary energy demand for all 51 individual construction measures is expected to be at least 10 percent lower than the reference values set by the German Energy Saving Ordinance (EnEV), the Building Energy Act (GEG), or the GEG amendment, depending on the date of the building permit application. An Energy Performance Certificate (EPC) is provided for all buildings.</p> <p>Furthermore, the buildings are to be operated efficiently through ongoing energy efficiency monitoring and evaluation.</p>
Do no significant harm criteria		<p>The project complies with the DNSH Criteria for the environmental objective <i>Climate adaptation</i>, as information is disclosed on how climate-related risks and vulnerabilities are evaluated and addressed for the financed buildings. According to the Issuer, for new construction projects near bodies of water or in flood-prone areas, a 100-year flood risk (HT100) assessment is conducted using mapping from the State Institute for the</p>

¹¹³ [Acquisition and ownership of buildings](#)

¹¹⁴ According to the EU Taxonomy Q&A, the construction of a new building for own use can be covered under Section 7.1 “Construction of new buildings”, or Section 7.7 “Acquisition and ownership of buildings”.

¹¹⁵ Green Bond Framework Baden-Württemberg - 2024

¹¹⁶ Internal documentation by the Federal State of Baden-Wuerttemberg

		Environment Baden-Wuerttemberg. Other risks, such as wind, rain, snow, and fire, are addressed through legal standards like DIN EN 1991, which regulates structural loads, and the Building Energy Act (GEG), which sets thermal insulation requirements for buildings in both summer and winter.
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Project 34b: Notably energy-efficient new buildings in the public building construction – for buildings larger than 5000 m² with “Assessment System for Sustainable Buildings”

Short description of the project: This project relates to new construction measures being implemented by the Federal state as owner and builder. A total of 51 individual measures are involved and approximately 85 percent of expenditures of them in buildings larger than 5000 m². For approximately 73 percent of the larger than 5000 m² buildings the “Assessment System for Sustainable Buildings” (BNB) have been conducted.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Acquisition of and Ownership of Buildings^{117 118}


Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project complies with the substantial contribution criteria lined out for 7.7 - <i>Acquisition of and Ownership of Buildings</i> for the environmental objective <i>Contribution to climate mitigation</i>.</p> <p>The same criteria as for the previous project are met. In addition, the component catalogue for building envelope of state buildings¹¹⁹ specifies that airtightness must be checked by qualified personnel of architects or building physicists as part of the construction management during the construction process, as required by the EU Taxonomy.</p> <p>Furthermore, qualified personnel are expected to monitor the building envelope during construction to ensure correct execution. Any defects found are corrected, and after completion, the client is due to check the work for issues. Significant defects or deviations are documented and may be shared with investors or customers.</p> <p>The calculation of the Global Warming Potential (GWP) for each phase in the life cycle is carried out for the buildings.</p>

¹¹⁷ [Acquisition and ownership of buildings](#)

¹¹⁸ According to the EU Taxonomy Q&A, the construction of a new building for own use can be covered under Section 7.1 “Construction of new buildings”, or Section 7.7 “Acquisition and ownership of buildings”.

¹¹⁹ Internal documentation by the Federal State of Baden-Wuerttemberg

Do no significant harm criteria		As for the previous section (34a), the project complies with the DNSH-criteria for the environmental object <i>climate adaptation</i> , as information is disclosed about how risks and vulnerability related to climate are evaluated and addressed for the financed buildings.
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Project 34c: Notably energy-efficient new buildings in the public building construction – for buildings larger than 5000 m² without “Assessment System for Sustainable Buildings”

Short description of the project: This project relates to new construction measures being implemented by the state as owner and builder. A total of 51 individual measures are involved and approximately 85 percent of expenditures of them in buildings larger than 5000 m². For approximately 27 percent of the larger than 5000 m² buildings the “Assessment System for Sustainable Buildings” (BNB) haven’t been conducted.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Acquisition of and Ownership of Buildings^{120 121}

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria lined out for 7.7 - <i>Acquisition of and Ownership of Buildings</i> for the environmental objective <i>Contribution to climate mitigation</i> . The same criteria as for the previous project are met. However, the calculation of the Global Warming Potential (GWP) for each phase in the life cycle is not carried out for the buildings
Do no significant harm criteria		As for the previous section (34a), the project complies with the DNSH-criteria for the environmental objective <i>climate adaptation</i> , as information is disclosed about how risks and vulnerability related to climate are evaluated and addressed for the financed buildings.

¹²⁰ [Acquisition and ownership of buildings](#)

¹²¹ According to the EU Taxonomy Q&A, the construction of a new building for own use can be covered under Section 7.1 “Construction of new buildings”, or Section 7.7 “Acquisition and ownership of buildings”.


Project 35: Notably energy-efficient restructuring measures in the public building construction

Short description of the project: This project consists in implementing renovation/refurbishment measures in 10 existing state-owned buildings.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Renovation of existing Buildings¹²²

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for 7.2. – <i>Renovation of existing buildings</i> for the environmental objective <i>Contribution to climate mitigation</i> . According to the project profile ¹²³ , the building renovation measures financed are expected to comply with the applicable requirements for major renovations, and the energy performance of buildings is to meet the minimum cost-effective energy performance requirements set out in Directive 2010/31/EU.
Do no significant harm criteria		<p>The project partially satisfies the DNSH-criteria. It complies with the environmental objectives <i>water and pollution prevention</i>.</p> <p>Regarding climate adaptation, more information is needed about how risks and vulnerability related to climate are evaluated and addressed for the financed buildings which should be renovated.</p> <p>For circular economy issues, Baden-Wuerttemberg states the construction measures comply with the requirements of the Federal Circular Economy Act, take the requirements of the Baden-Wuerttemberg State Circular Economy Act into account, and (over)fulfill the requirements of the EU Taxonomy. However, justification is needed about the monitoring of the volume of construction waste generated, the percentage of reuse, the compliance with recycling rate required by the regulation or the building design.</p>

¹²² [Renovation of existing buildings](#)

¹²³ Internal documentation by the Federal State of Baden-Wuerttemberg



Project 53: Timber Construction Initiative BW

Short description of the project: The aim of this initiative is to promote wood as a renewable and carbon-storing raw material for construction. As a research programme, it focuses on promoting education and training but does not finance the actual construction or structural implementation of wooden buildings.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹²⁴

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not eligible to the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not eligible to the EU Taxonomy – Not applicable


Project 56: New research building INATECH

Short description of the project: This project involves the construction of a new research building for the Institute for Sustainable Technical Systems (INATECH) in Freiburg.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Acquisition and Ownership of Buildings^{125 126}

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined under 7.7 – <i>Acquisition and ownership of buildings</i> for the environmental objective <i>Contribution to climate mitigation</i> . According to the project profile ¹²⁷ , the preliminary energy performance certificate for the INATECH building shows an actual value of 67.8 kWh/m ² , compared to the Building Energy Act (Gebäudeenergiegesetz – GEG) requirement of 83.97 kWh/m ² , which is 19% lower. This exceeds the EU Taxonomy requirement of at least 10 percent lower.


¹²⁴ The project is not eligible to the EU Taxonomy, as it does not meet the definition / description of the 9.1 - *Close to market research, development and innovation* activity, for the environmental objective *Contribution to climate change mitigation*.

Indeed, there is no clear process or technology identified in the project profile, and it is tricky to make a precise correspondence between the timber construction technology and the Technology Readiness Level (TRL) scale, as required by the EU Taxonomy. This process should already be in testing phase, with a TRL 6. Thus more information is needed to consider this research program as eligible.

¹²⁵ [Acquisition and ownership of buildings](#)

¹²⁶ According to the EU Taxonomy Q&A, the construction of a new building for own use can be covered under Section 7.1 “Construction of new buildings”, or Section 7.7 “Acquisition and ownership of buildings”.

¹²⁷ Internal documentation by the Federal State of Baden-Wuerttemberg

Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objective of <i>Climate adaptation</i> . The Issuer mentions that earthquake-related risks have been considered in the construction zone and that changing temperatures and heat stress are managed with external sun protection and partial air conditioning. Based on this, EthiFinance assumes that physical climate risks and vulnerabilities have been properly assessed for the building.
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Project 61: Energy-efficient State Housing Funding

Short description of the project: This programme involves providing grants for the construction and acquisition of new social housing, delivered through the state's L-Bank under the "Wohnungsbau BW" programme. Funding is allocated to investors who build or acquire new rental units to offer them at reduced social rents for eligible households. Private individuals building or purchasing homes for personal use can also receive subsidies if they require state support (social promotion of owner-occupied housing).

Environmental objective: Climate change mitigation

EU Taxonomy activity: Construction of new Buildings¹²⁸ / Acquisition of and Ownership of Buildings¹²⁹

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for 7.7 – <i>Acquisition and ownership of buildings</i> for the environmental objective <i>Contribution to climate mitigation</i> . According to the project profile ¹³⁰ , compliance with the minimum energy requirements is a prerequisite for funding. Additionally, energy performance for each financed building will be systematically certified with an energy performance certificate, as required by the EU Taxonomy.
Do no significant harm criteria		The project does not comply with the DNSH Criteria for the environmental objectives of <i>Climate adaptation, water, circular economy, pollution prevention and biodiversity</i> . According to the Issuer, risks and vulnerabilities related to climate are not evaluated or addressed during the approval process for the state housing subsidy. Furthermore, the administrative regulation for the BW Housing Funding Programme 2022 (VwV-Wohnungsbau BW 2022) does not explicitly require or specify that other environmental topics be formally considered in the evaluation and selection process for financing construction projects, apart from the basic criteria already defined in the regulation.

¹²⁸ [Construction of new buildings](#)

¹²⁹ [Acquisition and ownership of buildings](#)

¹³⁰ Internal documentation by the Federal State of Baden-Wuerttemberg

Clean Transportation

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Clean Transportation” category with the Technical Screening Criteria and the criteria to avoid significant harm of the EU Taxonomy. After analysing this information, EthiFinance has reached the following conclusions:

Project 01: Fast Cycling Routes



Short description of the project: This project involves planning and construction of fast cycle connections (RSV) as direct, efficient, and attractive commuter routes, aimed at shifting transportation from motorised private vehicles to environmentally friendly cycling.

Feasibility studies for 63 routes totalling 1,160 km have been initiated in Baden-Wuerttemberg, with 23 projects currently in the concrete planning stage.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Personal Mobility, Cycle Logistics¹³¹

Status: ALIGNED

	Alignment	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for <i>infrastructure for personal mobility and cycle logistics</i> under the environmental objective of <i>climate change mitigation</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention and biodiversity</i> .

Project 02: Cycling Routes on State Roads

Short description of the project: Planning and construction of state cycle path connections with the aim of creating a continuous, needs-based, safe and efficient cycle path network for nationwide development. This can involve both inner-city and outer-city cycle path connections on state roads. In some cases, the creation of a missing intermediate section with a length of a few hundred metres between two existing cycle path connections is sufficient to significantly increase the attractiveness of the cycle route (gap closure). In other cases, it is necessary to completely rebuild a cycle route over several kilometres.



Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Personal Mobility, Cycle Logistics¹³²

Status: ALIGNED

¹³¹ [Infrastructure for personal mobility, cycle logistics](#)

¹³² [Infrastructure for personal mobility, cycle logistics](#)

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for <i>infrastructure for personal mobility and cycle logistics</i> under the environmental objective of <i>climate change mitigation</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention and biodiversity</i> .



Project 03: State initiative IV - market growth electromobility BW

Short description of the project: This project focuses on the expansion and construction of a nationwide pedestrian-friendly charging infrastructure, promotion and electrification of selected vehicle fleets, including state fleets, as well as supporting innovative projects and concepts for electromobility. It also promotes research and innovation in future mobility, an SME mobility campaign, and the ongoing electrification of commercial vehicles, cars, and buses. Additionally, it includes an education and young talent initiative aimed at developing skilled workers and fostering innovation, as part of the cross-cutting topic of qualification.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed¹³³

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

Project 06: Funding of personnel in the field of sustainable mobility

Short description of the project: The Baden-Wuerttemberg Ministry of Transport is committed to achieving a transport turnaround by 2030. The goals include doubling public transport use, ensuring that every second car is climate-neutral, reducing motor vehicle traffic by 20% in both urban and rural areas, halving all journeys completed by bike or on foot and transporting every second tonne in a climate-neutral manner. To implement these ambitious climate protection

¹³³ The state of Baden-Württemberg assigned the following activities to this project: a) manufacture of low carbon technologies for transport, b) manufacture of batteries, c) operation of personal mobility devices, cycling logistics, d) transport by motorcycles, passenger cars and light commercial vehicles, e) infrastructure enabling low-carbon road transport and public transport.

Due to a lack of detail about the specific measures and requirements of the project, it is unfortunately not possible for EthiFinance to evaluate the project for the activities mentioned.



goals in the transport sector, the combined efforts of the state and municipalities are essential. Urban and rural districts play a key role in this process, and active participation from these districts is crucial for the success of the municipal transport transition. To support this, the state is funding the necessary structural development, including personnel recruitment in municipal administrations.

Public funds are provided through a support programme for personnel recruitment.

Environmental objective pursued: Climate change mitigation

EU Taxonomy activity: Not listed

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable



Project 07: Support Program for Municipal Cycling and Pedestrian Infrastructure

Short description of the project: This project is part of the State Municipal Transport Financing Act (LGVFG), a funding programme designed to support municipalities in the construction, expansion, and conversion of cycling and pedestrian infrastructure.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Personal Mobility, Cycle Logistics¹³⁴

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for <i>infrastructure for personal mobility and cycle logistics</i> under the environmental objective of <i>climate change mitigation</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention and biodiversity</i> .

¹³⁴ [Infrastructure for personal mobility, cycle logistics](#)

Project 08: Cycling Routes Network



Short description of the project: Creation, implementation, and signposting of *RadNETZ* – a continuous and safe network for everyday cycling.

RadNETZ Baden-Württemberg connects and crosses all regional and medium-sized centres across the state via defined main routes for everyday cycling. It is characterised by direct, safe, and comfortable cycle routes with uniform signposting throughout. The network also includes the 21 official long-distance tourist cycle routes. In total, more than 700 municipalities are connected to the approximately 7,000 kilometre-long *RadNETZ*.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Personal Mobility, Cycle Logistics¹³⁵

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for <i>infrastructure for personal mobility and cycle logistics</i> under the environmental objective of <i>climate change mitigation</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention and biodiversity</i> .


Project 09: Cycling Culture Initiative

Short description of the project: The initiative aims to make cycling a tangible experience by fostering cooperation between local authorities and employers. It encourages people to enjoy cycling and motivates them to view and use bicycles as a mode of transport for everyday journeys.

Environmental objective pursued: Climate change mitigation


EU Taxonomy activity: Not listed¹³⁶

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable

¹³⁵ [Infrastructure for personal mobility, cycle logistics](#)

¹³⁶ The state of Baden-Wuerttemberg has assigned the activity *Infrastructure for personal mobility, cycle logistics* to this project. While the project includes offers or incentives for cycling, this does not align with the definition of this activity in the EU Taxonomy, which specifically covers the “construction, modernisation, maintenance, and operation of infrastructure [...]”. As EthiFinance was unable to match this project to any other activity listed in the Delegated Act, the activity of this project is classified as “not listed”.

Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable
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Project 10: Establishment of express bus lines in the Stuttgart Region



Short description of the project: As part of efforts to improve air quality in Stuttgart, the Ministry of Transport Baden-Wuerttemberg is promoting the establishment of express bus lines in the region.

In 2023, express bus lines that were hybrid or fully electric received subsidies covering up to 75 percent of costs, while alternative drive forms not yet available as standard were subsidised up to 80 percent.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Urban and Suburban Transport, Road Passenger Transport¹³⁷

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project does not comply with the substantial contribution criteria outlined for <i>urban and suburban transport, road passenger transport</i> under the environmental objective of <i>climate change mitigation</i> , as some vehicles involved in the project were not emissions-free.
Do no significant harm criteria		The project complies with the DNSH Criteria for <i>climate adaptation, water and biodiversity</i> , but does not meet the DNSH Criteria for <i>circular economy and pollution prevention</i> .

Project 11: Electrification Hochrheinbahn

Short description of the project: The state’s contribution to the planning costs for the electrification of the Hochrhein Railway.



Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Rail Transport¹³⁸

Status: ALIGNED

¹³⁷ [Urban and suburban transport, road passenger transport](#)

¹³⁸ [Infrastructure for rail transport](#)

	Compliance	Reasoning
Substantial contribution criteria		The project is aligned with the substantial contribution criteria outlined for infrastructure for <i>rail transport</i> under the environmental objective of climate change mitigation.
Do no significant harm criteria		The project is aligned with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention, and biodiversity</i> .



Project 12: Low-emission bus transportation

Short description of the project: Promotion of environmentally friendly, low-emission public transport buses and citizens' buses.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Urban and Suburban Transport, Road Passenger Transport¹³⁹

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project does not comply with the substantial contribution criteria outlined for <i>urban and suburban transport, road passenger transport</i> under the environmental objective of <i>climate change mitigation</i> , as some vehicles involved in the project had emissions. Most of the vehicles should be aligned.
Do no significant harm criteria		<p>The project does comply with the DNSH Criteria for <i>climate adaptation, water, and biodiversity</i>, but does not satisfy the DNSH Criteria for <i>circular economy and pollution prevention</i>.</p> <p>For circular economy, the Issuer would need to implement measures for the recycling and reuse of batteries and electronic devices.</p> <p>For pollution prevention, the Issuer would need to meet the tyre requirements outlined in the EU Taxonomy.</p>

¹³⁹ [Urban and suburban transport, road passenger transport](#)



Project 13: GVFG Electrification Projects

Short description of the project: Promotion of electrification projects in accordance with the Municipal Transport Financing Act (GVFG)

Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Rail Transport¹⁴⁰

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project is aligned with the substantial contribution criteria outlined for infrastructure for <i>rail transport</i> under the environmental objective of climate change mitigation.
Do no significant harm criteria		The project is aligned with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention, and biodiversity</i> .



Project 14: Combi-Solution City Railway Karlsruhe (GVFG Electrification Projects)

Short description of the project: Promotion of electrification projects in accordance with the Municipal Transport Financing Act (GVFG)

Environmental objective: Climate change mitigation

EU Taxonomy activity: Infrastructure for Rail Transport¹⁴¹

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project is aligned with the substantial contribution criteria outlined for infrastructure for <i>rail transport</i> under the environmental objective of climate change mitigation.
Do no significant harm criteria		The project is aligned with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention, and biodiversity</i> .

¹⁴⁰ [Infrastructure for rail transport](#)

¹⁴¹ [Infrastructure for rail transport](#)

Project 44: Mobility Living Lab (MobiLab) Stuttgart

Short description of the project: The “MobiLab” project at the University of Stuttgart is developing an innovative mobility concept for the university campus, with the aim of making the Vaihingen campus climate-neutral in the long term. *MobiLab* is a multifaceted real-world laboratory that integrates new forms of transportation, innovative vehicles, automated shuttles, e-scooters, electric drive systems, and intelligent energy storage and distribution systems.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Close to Market Research, Development and Innovation¹⁴²

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project does not comply with the substantial contribution criteria outlined for <i>Close to market research, development, and innovation</i> for the environmental objective of <i>Climate change mitigation</i> . The Technical Screening Criteria for this activity require the fulfilment of all Technical Screening Criteria and Do Not Significant Harm Criteria for all enabling activities. EthiFinance lacks sufficient information on every research or development process within the project to evaluate all enabling activities.
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>Water, Pollution prevention, and Biodiversity</i> , but does not satisfy the criteria for <i>Climate adaptation</i> and <i>Circular economy</i> .

Project 59a: ePolice fleet – battery-electric vehicles

Short description of the project: Climate-friendly orientation of the Baden-Wuerttemberg police fleet.

Procurement/operation of five battery-electric police vehicles (Innovation Lab Police Station Kehl).



Environmental objective: Climate change mitigation

EU Taxonomy activities: Transport by Motorbikes, Passenger Cars and Light Commercial Vehicles¹⁴³

Status: NOT ALIGNED

¹⁴² [Close to market research, development and innovation](#)

¹⁴³ [Transport by motorbikes, passenger cars and light commercial vehicles](#)

	Compliance	Reasoning
Substantial contribution criteria		The project does comply with the substantial contribution criteria outlined for <i>Transport by motorbikes, passenger cars, and light commercial vehicles</i> under the environmental objective of <i>Climate change mitigation</i>
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>Climate adaptation, Water, Circular economy</i> and <i>Biodiversity</i> but does not satisfy the DNSH Criteria for pollution prevention due to a lack of information regarding the tyres.

Project 59b: ePolice fleet – pedelecs



Short description of the project: Climate-friendly orientation of the Baden-Wuerttemberg police fleet.

Procurement/operation of 45 pedelecs for the police Baden-Wuerttemberg

Environmental objective: Climate change mitigation

EU Taxonomy activities: Operation of Personal Mobility Devices, Cycle Logistics¹⁴⁴ (pedelecs)

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for <i>Operation of personal mobility devices, cycle logistics</i> under the environmental objective of <i>Climate change mitigation</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>Climate adaptation, Water, Circular economy, Pollution prevention</i> , and <i>Biodiversity</i> .

¹⁴⁴ [Operation of personal mobility devices, cycle logistics](#)

Climate Change Adaptation

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Climate Change Adaptation” category with the Technical Screening Criteria and the Do No Significant Harm (DNSH) Criteria of the EU Taxonomy. After analysing this information, EthiFinance reached to the following conclusions:



Project 17: Funding Program Klimopass

Short description of the project: The project supports municipalities (among others) in the implementation of concrete climate change adaptation measures.

Environmental objective pursued: Climate adaptation

EU Taxonomy activities: Not listed¹⁴⁵

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

Project 52: Silvicultural measures

Short description of the project: The project promotes initial afforestation, reforestation, and the development of more stable, climate-resilient forests.

Environmental objective: Climate adaptation

EU Taxonomy activities: Afforestation¹⁴⁶ and Rehabilitation and Restoration of Forests, including Reforestation and Natural Forest Regeneration after an extreme Event¹⁴⁷

Status: ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for both activities: <i>Afforestation and Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event,</i>

¹⁴⁵ This project is not defined in the Delegated Act. However, parts of the project could be in line with the activity “Consultancy for physical climate risk management and adaptation”. The project consists of three modules, the first two of which are consultancy services regarding the preparation of adaptation projects (climate analyses, vulnerability analyses, etc.).

¹⁴⁶ Afforestation

¹⁴⁷ Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event

		under the environmental objective of <i>Climate adaptation</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>Climate adaptation</i> , <i>Water</i> , <i>Circular economy</i> , <i>Pollution prevention</i> , and <i>Biodiversity</i> .

Sustainable Water and Wastewater Management

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Sustainable Water and Wastewater Management” category with the Technical Screening Criteria and the Do No Significant Harm (DNSH) Criteria of the EU Taxonomy. After analysing this information, EthiFinance reached the following conclusions:



Project 21: Sewerage infrastructure investments

Short description of the project: Funding of expenditures for investments directly necessary for the operation of public wastewater disposal (in accordance with the current version of the Ministry of the Environment’s water management funding guidelines).

Environmental objective: Sustainable use and protection of water and marine resources

EU Taxonomy activities: Urban Wastewater Treatment¹⁴⁸

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for <i>Urban wastewater treatment</i> under the environmental objective of <i>Sustainable use and protection of water and marine resources</i> .
Do no significant harm criteria		<p>The project complies with the DNSH Criteria for the environmental objectives of <i>Circular economy</i>, <i>Pollution prevention</i>, and <i>Biodiversity</i>, but does not satisfy the DNSH Criteria for <i>Climate mitigation</i> and <i>Climate adaptation</i>.</p> <p>For <i>Climate mitigation</i>, the Issuer does not have a monitoring system in place for anaerobic digestion of sewage sludge.</p> <p>For <i>Climate adaptation</i>, there is no information regarding whether the Issuer conducts climate risk and resilience analysis for the entire life cycle of all wastewater plants.</p>

¹⁴⁸ [Urban Wastewater Treatment](#)



Project 22: Water Supply

Short description of the project: Funding of expenditures for investments directly necessary for the operation of the public water supply (in accordance with the current version of the Ministry of the Environment’s water management funding guidelines).

Environmental objective: Sustainable use and protection of water and marine resources

EU Taxonomy activities: Water Supply¹⁴⁹

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project does not comply with the substantial contribution criteria outlined for water supply under the environmental objective of <i>Sustainable use and protection of water and marine resources</i> , as the Issuer lacks data to support compliance with all the required Technical Screening Criteria for this activity.
Do no significant harm criteria		<p>The project complies with the DNSH Criteria for the environmental objectives of <i>Climate mitigation</i>, <i>Circular economy</i>, <i>Pollution prevention</i>, and <i>Biodiversity</i>, but lacks alignment for the environmental objective <i>Climate adaptation</i>.</p> <p>For <i>Climate adaptation</i>, there is no information indicating whether the Issuer conducts climate risk and resilience analysis for the entire life cycle of all water supply plants.</p>

¹⁴⁹ [Water Supply](#)

Circular Economy Adapted Products, Production Technologies and Processes

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Circular Economy” category with the Technical Screening Criteria and the Do no Significant Harm (DNSH) Criteria of the EU Taxonomy. After analysing this information, EthiFinance reached the following conclusions:

Project 18: Industrial dismantling of battery modules and electric motors (DeMoBat)

Short description of the project: DeMoBat is a research project focused on developing automated processes for dismantling electric motors and end-of-life battery modules, aiming for material recovery, preparation for reuse, and securing economically strategic raw materials for e-mobility. It includes financing and developing demonstrators and digital twins for simulation and battery analysis. The results are already being applied in the industry.

Environmental objective: Climate change mitigation

EU Taxonomy activity: Close to Market Research, Development and Innovation¹⁵⁰

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project complies with the substantial contribution criteria outlined for <i>Close to market research, development and innovation</i> for the environmental objective of <i>climate change mitigation</i>.</p> <p>According to the project profile¹⁵¹, the project uses TRL 6 technologies, already demonstrated in industry, focusing on circular economy activities such as battery manufacturing and reuse. It aims to reduce lithium-ion battery emissions by up to 40 percent and improve automation to lower costs and risks, enabling scalability while enhancing environmental and economic feasibility.</p> <p>However, compliance with the DNSH guidelines for the respective sector (i.e, manufacture of batteries) is assumed but not precisely justified. Additionally, more information is needed regarding how the life cycle GHG emissions are evaluated by the entity carrying out the research.</p>
Do no significant harm criteria		<p>The project does not comply with the DNSH Criteria for the environmental objectives of <i>Climate adaptation, Water, Circular economy, Pollution prevention, and Biodiversity</i>.</p> <p>To meet the DNSH Criteria, more information is needed on how risks and vulnerabilities related to climate, water quality, circular economy, air, water, land pollution, and biodiversity are evaluated and addressed for the researched technologies.</p>

¹⁵⁰ [Close to market research, development and innovation](#)

¹⁵¹ Internal documentation by the Federal State of Baden-Wuerttemberg



Project 19: Phosphorus recovery from sewage sludge

Short description of the project: This project involves financing the construction of pilot plants for phosphorus recycling from sewage sludge or sewage sludge ash.

Environmental objective: Circular Economy

EU Taxonomy activity: Phosphorus recovery from waste water¹⁵²

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project complies with the substantial contribution criteria outlined for <i>Phosphorus recovery from wastewater</i> for the environmental objective <i>Circular economy</i>.</p> <p>According to the project profile¹⁵³, about 20 percent of the phosphorus contained in the sewage sludge is recovered in the plant through struvite production, exceeding the EU Taxonomy requirement of at least 15%. Additionally, the plants recovering phosphorus from sewage sludge ash achieve a recovery rate of at least 80%, meeting required minimum percentage.</p> <p>The intended application for the recovered phosphorus is disclosed, with its use as a fertiliser, and potential use in the chemical industry being examined.</p>
Do no significant harm criteria		<p>The project partially satisfies the DNSH-criteria. The project complies with the environmental objectives <i>Climate change mitigation, water, pollution prevention and biodiversity</i>.</p> <p>The project does not comply with environmental objective <i>climate change adaptation</i> as there has been no specific risk or resilience analysis for this activity conducted.</p>

Project 51: Bioeconomy Strategy BW

Short description of the project: This project consists in supporting the transformation of Baden-Wuerttemberg's economy towards a biobased economy, through a funding program for company-led innovation and investment projects. The projects funded under this program support the objectives of the *State strategy for a sustainable bioeconomy* (LSNB), all oriented towards a more efficient use of natural resources.

Environmental objective pursued: Transition to a circular economy



EU Taxonomy activity: Not listed¹⁵⁴

Status: NOT ELIGIBLE

¹⁵² Phosphorus recovery from wastewater

¹⁵³ Internal documentation by the Federal State of Baden-Wuerttemberg

¹⁵⁴ The project has not been assigned to an EU taxonomy activity by the Federal State of Baden-Wuerttemberg.

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

Pollution Prevention and Control

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Pollution Prevention and Control” category with the Technical Screening Criteria and the Do No Significant Harm (DNSH) Criteria of the EU Taxonomy. After analysing this information, EthiFinance reached the following conclusions:



Project 5: Public Air Solutions - Filter Cubes

Short description of the project: The air filter columns are a locally effective measure used in specific high-load areas to help meet NO₂ limits.

Environmental objective pursued: Pollution prevention and control

EU Taxonomy activities: Not listed

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable



Project 15: Intelligent public transport in BW - digitally mobile nationwide

Short description of the project: The “Intelligent Public Transport in BW” project aims to reduce barriers to using public transport by digitalising information and booking systems. By promoting innovative and digital systems, the project seeks to strengthen public transport and reduce road traffic, thereby lowering CO₂ emissions.

Environmental objective pursued: Pollution prevention and control

EU Taxonomy activities: Not listed

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable



Project 20: Remediation of contaminated sites

Short description of the project: Funding of expenditures for investments that are directly required for the remediation of contaminated sites (in accordance with the current version of the funding guidelines of contaminated sites)

Environmental objective: Pollution prevention and control

EU Taxonomy activities: Remediation of Contaminated Sites and Areas¹⁵⁵

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project complies with the substantial contribution criteria outlined for the <i>Remediation of contaminated sites and areas</i> under the environmental objective of <i>Pollution prevention</i> .
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>Water</i> and <i>Biodiversity</i> but does not satisfy the DNSH Criteria for <i>Climate mitigation</i> , <i>Climate adaptation</i> and <i>Circular economy</i> .

¹⁵⁵ [Remediation of contaminated sites and areas](#)

Terrestrial and Aquatic Biodiversity Conservation

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Terrestrial and Aquatic Biodiversity Conservation” category with the Technical Screening Criteria and the Do No Significant Harm (DNSH) Criteria of the EU Taxonomy. After analysing this information, EthiFinance reached the following conclusions:



Project 29: Biotope Mapping

Short description of the project: The funds will be used to survey and digitally map the existing legally protected habitats (biotopes), laying the foundation for the development and preservation of these important ecosystems.

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁵⁶

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable


Project 30: Non-productive investments in nature conservation

Short description of the project: Investments for the preservation and creation of new habitats for native animals and plants.

Environmental objective: Protection and restoration of biodiversity and ecosystems


EU taxonomy activity: Conservation, including Restoration, of Habitats, Ecosystems and Species¹⁵⁷

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		<p>The project does not satisfy the substantial contribution criteria. More information on the specific investments is required to determine their contribution to maintaining or restoring ecosystems, among other criteria that are not met.</p> <p>The federal state of Baden-Wuerttemberg currently still has data gaps regarding state-wide species surveys. Extremely rare and highly endangered species are regularly surveyed. There is currently</p>

¹⁵⁶ Mappings are a pre-requisite of the activities eligible under the EU taxonomy “Conservation, including restoration, of habitats, ecosystems and species”. EthiFinance therefore considers that this activity is not covered in the EU taxonomy

¹⁵⁷ Conservation, including restoration, of habitats, ecosystems and species

		no information that these data gaps have been closed on the specifically funded areas. ¹⁵⁸
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention and biodiversity</i> .



Project 31: Nature conservation contracts

Short description of the project: This project involves multi-year contracts with farms and other land users that include specific management requirements based on nature conservation objectives to maintain or develop the contract areas. The subsidy, provided as a fixed-amount payment, compensates for additional costs or loss of income. The categories of contractual nature conservation primarily include the extensification of arable or grassland management (including extensive grazing), the abandonment of arable or grassland management, measures for permanent/special crops, and the conversion of arable land to extensive grassland use.

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁵⁹

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

Project 32: Expansion of the statewide biotope network

Short description of the project: The funds will be used to expand the Biotope Network in the state. A biotope network is a connected system of natural or semi-natural habitats designed to enable the movement and interaction of species, promoting biodiversity. The objective is for the network to cover 15 percent of the state’s area by 2030.

Environmental objective: Protection and restoration of biodiversity and ecosystems



EU taxonomy activity: Conservation, including Restoration, of Habitats, Ecosystems and Species¹⁶⁰

Status: NOT ALIGNED

¹⁵⁸ <https://www.lubw.baden-wuerttemberg.de/natur-und-landschaft/landesweite-artenkartierung-lak>

¹⁵⁹ Agricultural activities are not listed in the EU taxonomy

¹⁶⁰ [Conservation, including restoration, of habitats, ecosystems and species \(europa.eu\)](#)

	Compliance	Reasoning
Substantial contribution criteria		The project does not satisfy the substantial contribution criteria. More information on the specific investments is required to determine their contribution to maintaining or restoring ecosystems, among other criteria that are not met. The federal state of Baden-Wuerttemberg currently still has data gaps regarding state-wide species surveys. Extremely rare and highly endangered species are regularly surveyed. There is currently no information that these data gaps have been closed on the specifically funded areas. ¹⁶¹
Do no significant harm criteria		The project complies with the DNSH Criteria for the environmental objectives of <i>climate adaptation, water, circular economy, pollution prevention and biodiversity</i> .



Project 33: Special Programme for Biodiversity

Short description of the project: The Issuer intends to fund a Special Programme to enhance biodiversity, which was launched in 2018. For the issuance of this bond, it has identified 10 priority areas: biodiversity through biotope networks, biodiversity for native species, biodiversity in agricultural landscapes, biodiversity in protected areas, biodiversity in forests, biodiversity through the reduction of synthetic chemical pesticides, public relations, biodiversity monitoring, and basic surveys.

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁶²

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

¹⁶¹ <https://www.lubw.baden-wuerttemberg.de/natur-und-landschaft/landesweite-artenkartierung-lak>

¹⁶² Eligibility is probably underestimated as part of this project is eligible but the issuer also finances activities assessed as not eligible in this project, such as public relations and agriculture-related activities. The issuer would benefit from separating these activities from the project.



Project 49: Preserving steep-hill grassland

Short description of the project: The objective of this project is to provide subsidies to farmers for the cultivation and management of steep grasslands with a slope of 25 percent or more, ensuring their long-term maintenance.

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁶³

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

¹⁶³ Agricultural activities are not listed in the EU taxonomy

Environmentally Sustainable Management of Living Resources and Land Use

The Issuer provided information to demonstrate compliance of the refinanced projects in the “Environmentally Sustainable Management of Living Resources” category with the Technical Screening Criteria and the Do No Significant Harm (DNSH) Criteria of the EU Taxonomy. After analysing this information, EthiFinance reached the following conclusions:



Project 36: Investing in properties with importance for environmental protection

Short description of the project: Acquisition of areas important for nature conservation to ensure sustainable management and enable ecological improvements, particularly in protected areas.

Environmental objective: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Conservation, including Restoration, of Habitats, Ecosystems and Species¹⁶⁴

Status: NOT ALIGNED

	Compliance	Reasoning
Substantial contribution criteria		The project does not comply with the substantial contribution criteria lined out for Conservation, including Restoration, of Habitats, Ecosystems and Species for the environmental objective biodiversity. The Federal State of Baden-Wuerttemberg states that it does not comply with some of the TSC.
Do no significant harm criteria		The project complies with the DNSH criteria for the environmental objectives <i>climate change adaptation, water and circular economy</i> , but does not satisfy the DNSH criteria for environmental objectives <i>climate mitigation and pollution prevention</i> as the upcoming measures are not defined yet.


Project 47: Research Program Organic Farming

Short description of the project: Research on organic farming, including an inventory of crop species and the study of interactions between flora and crops

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems


EU taxonomy activity: Not listed¹⁶⁵

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable

¹⁶⁴ [Conservation, including restoration, of habitats, ecosystems and species \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/Pages/infographic-eu-taxonomy-2023-01-18.aspx)

¹⁶⁵ Agricultural activities are not listed in the EU taxonomy

Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable
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Project 48: Aid for pruning of meadow orchards

Short description of the project: Professional pruning of fast-growing, large-crowned fruit trees in meadow orchards in the open countryside

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁶⁶

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable



Project 50: Preserving manually cultivable vineyards

Short description of the project: Ecologically upgrading vineyards by avoiding mechanical cultivation

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁶⁷

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

¹⁶⁶ Agricultural activities are not listed in the EU taxonomy

¹⁶⁷ Agricultural activities are not listed in the EU taxonomy



Project 54: Organic Model Regions BW

Short description of the project: The objective of this project is to promote and establish value chains to expand organic farming in the state. For example, the funds will be used to support regional stakeholders in finding suppliers or promoting organic farming through marketing expenses.

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁶⁸

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable



Project 55: Organic Farming

Short description of the project: The aim of this project is to fund the conversion and maintenance of organic farming or environmentally friendly farming methods in the state.

Environmental objective pursued: Protection and restoration of biodiversity and ecosystems

EU taxonomy activity: Not listed¹⁶⁹

Status: NOT ELIGIBLE

	Compliance	Reasoning
Substantial contribution criteria		Activity not listed in the EU Taxonomy – Not applicable
Do no significant harm criteria		Activity not listed in the EU Taxonomy – Not applicable

¹⁶⁸ Agricultural activities are not listed in the EU taxonomy

¹⁶⁹ Agricultural activities are not listed in the EU taxonomy

Minimum Social Safeguards (MSS)¹⁷⁰

The issuer has defined the following information on the compliance of the refinanced projects with the minimum social standards of the EU taxonomy:

EU taxonomy requirements	Information provided by the issuer	Alignment
Compliance with the OECD Guidelines for Multinational Enterprises	Germany is a signatory of the OECD Guidelines for Multinational Enterprises. As a federal state within Germany, Baden-Wuerttemberg is bound by “law and justice”.	
Compliance with the UN Guiding Principles on Business and Human Rights	Germany has adopted a National Action Plan to implement UN Guiding Principles on Business and Human Rights at the federal level in 2016. The National Action Plan applies to the whole of Germany. In addition, the Federal state of Baden-Wuerttemberg adopted the Public Corporate Governance Code (PCGK). This applies to the corporate governance of state-owned companies.	
Compliance with the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work	Germany has ratified the ten fundamental Conventions of the ILO, which form the legal basis for all regional authorities under public law within the Federal Republic of Germany.	
Compliance with the International Bill of Human Rights	Germany is a signatory to all major UN human rights conventions and their supplementary protocols. Article 1 of the Basic Law mandates that “Human dignity shall be inviolable” and commits Germany to “inviolable and inalienable human rights”. The Federal state of Baden-Wuerttemberg is also committed to human rights, as reflected in its constitution, and has an Office for the Protection of the Constitution to monitor human rights compliance.	

As a German federal state, Baden-Wuerttemberg is also subject to German federal legislation, including Article 28 (1) of the Basic Law, which ensures that the constitutional order in the federal states complies with the principles of a republican, democratic, and social constitutional state.¹⁷¹ Ongoing compliance with the MSS is monitored by the relevant ministries of the Federal State of Baden-Wuerttemberg responsible for the respective project. If controversies arise regarding minimum social safeguards in a project, it is no longer deemed eligible for funding.

EthiFinance confirms that the principles, guidelines and obligations of the Federal state of Baden-Wuerttemberg for the refinanced projects comply fully with the minimum social safeguards of the EU taxonomy.

¹⁷⁰ Regulation (EU) 2020/852 Article 18, page 35

¹⁷¹ https://www.bundestag.de/parlament/aufgaben/rechtsgrundlagen/grundgesetz/gg_02-245124

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