

ASSESSMENT

28 March 2024



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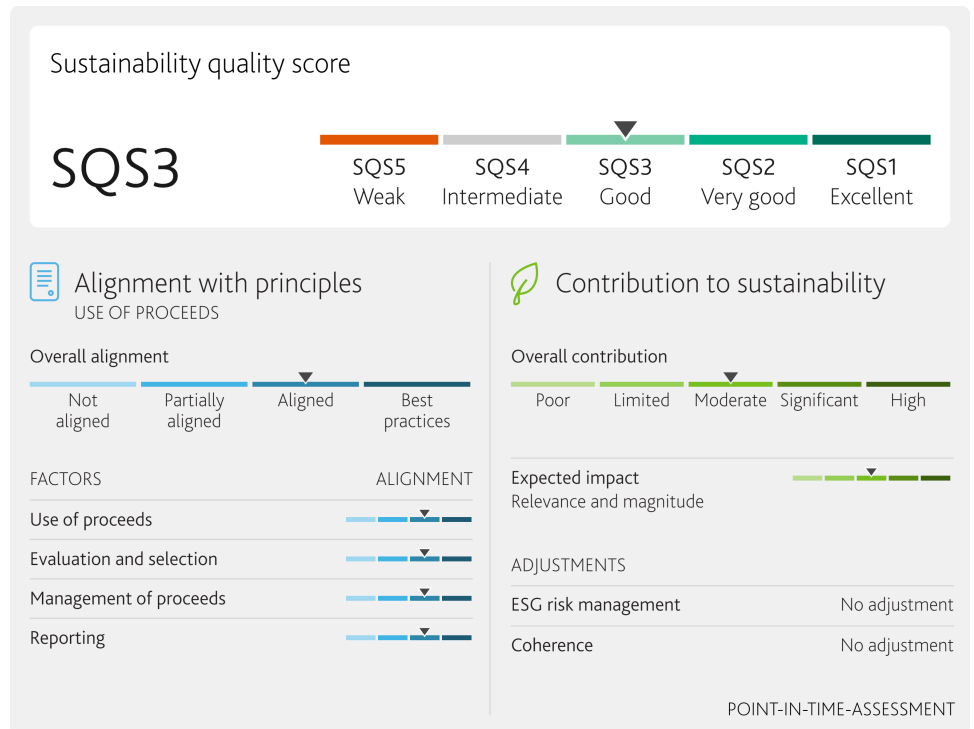
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Government of Saudi Arabia

Second Party Opinion – Green Financing Framework Assigned SQS3 Sustainability Quality Score

Summary

We have assigned an SQS3 sustainability quality score (good) to the Kingdom of Saudi Arabia's green financing framework dated March 2024. The country has established its use-of-proceeds framework to finance projects across eight eligible green categories. The framework is aligned with the four core components of the International Capital Market Association's (ICMA) Green Bond Principles 2021 (including June 2022, Appendix 1). The framework demonstrates a moderate overall contribution to sustainability.



This report was republished on 28 March 2024 to reflect the publication date of the issuer's framework.

Scope

We have provided a Second Party Opinion (SPO) on the sustainability credentials of the Kingdom of Saudi Arabia's Green Financing Framework, including the framework's alignment with the ICMA's Green Bond Principles 2021 (including June 2022, Appendix 1). Under its framework and acting through the Ministry of Finance, Saudi Arabia plans to issue use-of-proceeds green bonds and sukuk to finance projects across eight green categories, as outlined in Appendix 2 of this report.

Our assessment is based on the last updated version of the framework received on 28 March 2024, and our opinion reflects our point-in-time assessment¹ of the details contained in this version of the framework, as well as other public and non-public information provided by the company.

We produced this SPO based on our [Framework to Provide Second Party Opinions on Sustainable Debt](#), published in October 2022.

Issuer profile

Saudi Arabia covers an area of around 2.15 million square kilometers (km), which occupies 80% of the Arabian Peninsula. The country has extensive coastlines along the Persian Gulf and the Red Sea, with a total coastline of 2,640 km. With 36.4 million inhabitants, it is one of the most sparsely populated countries globally, at 17 inhabitants per square kilometre. Saudi Arabia is the largest economy in the Middle East, primarily driven by its hydrocarbon sector. Under the Saudi Vision 2030 plan, the government has put forward plans to diversify the economy away from its dependence on hydrocarbons.

Saudi Arabia's high exposure to environmental risks mainly relates to carbon transition because of its economic and fiscal dependence on the hydrocarbon sector, although the impact of such dependence is partially mitigated by very low hydrocarbon production costs. Saudi Arabia is also one of the world's most arid countries, and rapid economic and population growth in recent decades has posed challenges for water sustainability. While most of the country's water is produced by energy-intensive desalination plants, which are also vulnerable to attacks and oil spills, the country has access to cheap energy that mitigates this risk.

Strengths

- » The country aims to transparently communicate the estimated share of refinancing before each issuance.
- » Comprehensive and transparent project evaluation and selection processes are in place.

Challenges

- » Although a relevant ESG risk management legal system is in place, challenges remain with regard to the protection of human and labor rights in the country.
- » While the eligible categories of the framework are consistent with Saudi Arabia's sustainability strategy, we anticipate that the country will continue to heavily invest in the hydrocarbons sector in the coming years.

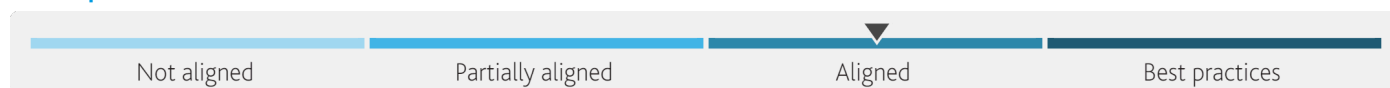
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Alignment with principles

The Kingdom of Saudi Arabia's Green Finance Framework is aligned with the four pillars of the ICMA's Green Bond Principles 2021 (including June 2022, Appendix 1):

- Green Bond Principles (GBP)
- Social Bond Principles (SBP)
- Green Loan Principles (GLP)
- Social Loan Principles (SLP)
- Sustainability-Linked Bond Principles (SLBP)
- Sustainability Linked Loan Principles (SLLP)

Use of proceeds



Clarity of the eligible categories – ALIGNED

The issuer has clearly communicated the nature of the expenditures, and the location at a country level of the projects for all eligible categories, which will be located mainly in the Kingdom of Saudi Arabia and across the Middle East for the Saudi Green Initiative project. Eligibility criteria are defined for nearly all project categories, although not all categories reference technical thresholds to define project eligibility and several are generally defined. Some references to technical thresholds have been made at activity level. For instance, some of the renewable energy technologies will seek to attain emissions below 100g CO₂/kWh. Exclusion criteria are clearly defined in the framework. Energy efficiency projects in any hard-to-abate sector and Enhanced Oil Recovery (EOR) projects are not included in the use of proceeds of this framework and therefore will not be financed through the proceeds of issuances.

Clarity of the environmental objectives – ALIGNED

The country has identified relevant environmental objectives associated with nearly all the eligible categories and referenced seven of the UN's Sustainable Development Goals (SDGs, see Appendix 1), which are considered coherent with international standards.

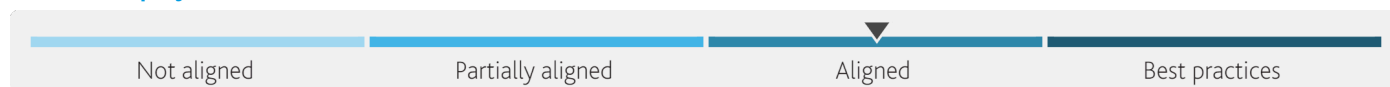
Clarity of the expected benefits – ALIGNED

The Kingdom has identified relevant benefits for nearly all the eligible categories. The identified benefits are measurable and will be quantified in reporting. The country has committed that the lookback period for eligible projects will be limited to 36 months and that it will disclose the share of refinancing before each issuance, both of which support our assessment.

Best practices identified - use of proceeds

- » Benefits are measurable and quantified for most projects, either ex-ante with clear baselines or with a commitment to do so in future reporting
- » Commitment to transparently disclose the share of proceeds used for refinancing where feasible
- » Commitment to transparently communicate the associated look-back periods where feasible

Process for project evaluation and selection



Transparency and quality of process for defining eligible projects – BEST PRACTICES

The country has established a clear decision-making process for determining the eligibility of projects formalized in its public framework. Two committees — the Sustainable Financing Committee and the Projects and Monitoring Committee — will be responsible for overseeing the sovereign's green bond issuances, validating the eligible projects against the framework, and carrying out allocation, monitoring and impact reporting activities. The roles and responsibilities for overseeing the process are clearly defined and member of the committees have relevant experience. Four public ministries — including those related to finance, economic, energy and environment — are permanent parties of these committees, with some flexibility to add new internal or external members, or both. The Sustainable Financing Committee meets twice a year. The Projects and Monitoring Committee, which also includes project owners, meets on a quarterly basis, and is responsible for the monitoring of continued compliance of the selected projects with eligibility and exclusion criteria, and recommending the replacement of any expenditure that is no longer eligible.

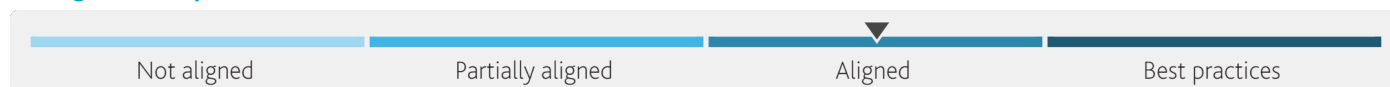
Environmental and social risk mitigation process – ALIGNED

Environmental and social risk strategy, monitoring and management are part of the Projects and Monitoring Committee's responsibilities. According to the issuer, the environmental and social risk system in place covers all eligible categories. The country has in place relevant environmental and social legislation, although we note some potential challenges, detailed in the ESG risk management section below.

Best practices identified - process for project evaluation and selection

- » The roles and responsibilities for project evaluation and selection are defined and include relevant expertise.
- » There is evidence of continuity in the selection and evaluation process through the life of the financial instruments, including compliance verification and procedures to undertake mitigating actions when needed.
- » The process for project evaluation, selection and monitoring is traceable.
- » ESG controversies are monitored.

Management of proceeds



Allocation and tracking of proceeds – BEST PRACTICES

The government has defined a clear process for the management and allocation of bond proceeds in its publicly available framework. Net proceeds raised under the framework will be placed in the country's general treasury account and will be earmarked to ensure an equal amount is used for eligible projects only, in line with a formalized internal process. There will be periodic tracking of how funds have been matched to eligible projects, and this will be adjusted at least annually to match allocations made during that period. The allocation period will be within two budget years following issuance, in line with market best practices.

Management of unallocated proceeds – ALIGNED

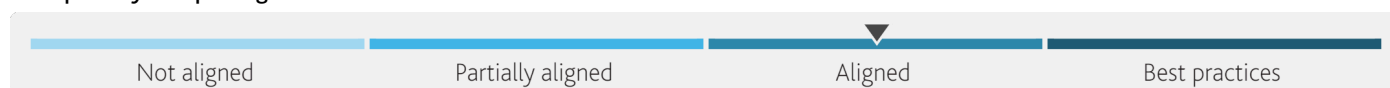
Unallocated proceeds will be invested in cash and managed in line with the Kingdom's general treasury policy. In the event that a project is postponed, canceled or otherwise becomes ineligible, the country has committed to replace that project with a new eligible project. No commitment has been identified for unallocated proceeds to exclude investments in GHG-intensive activities, including in the coal, gas, oil sector.

Best practices identified - management of proceeds

- » Broad disclosure of a clearly articulated and comprehensive management of proceeds policy to external stakeholders; bondholders at a minimum
- » Short allocation period, for example, typically less than 24 months
- » Commitment to reallocate proceeds to projects that are compliant with the framework

Reporting

Transparency of reporting – ALIGNED



Saudi Arabia will report annually on the allocation of funds to eligible projects or categories, while reporting on environmental benefits will occur on a biennial basis. Both reports will be until full allocation and in case of significant changes. Reporting will be made publicly available through the Ministry of Finance's website. The government has stated that reporting will include a list and brief description of financed projects and activities, the amount of proceeds allocated and the expected sustainable benefits at the eligible category level. Reporting will also include any significant developments, issues or controversies related to the eligible projects or categories.

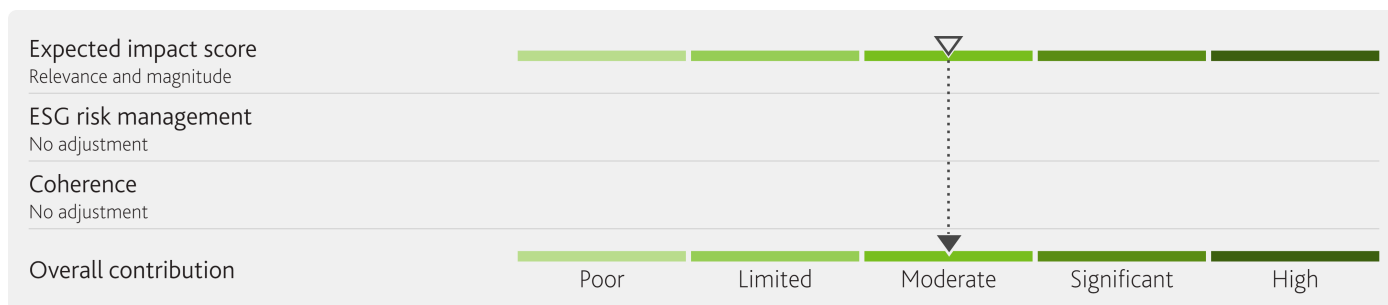
The government has identified clear and relevant environmental reporting indicators for each eligible category and has disclosed these indicators in the framework. Examples of indicators include the amount of emissions reduced or avoided, and areas conserved and/or recovered (km²). The methodology and assumptions used to report on environmental impacts will be publicly available in the impact reporting. The government will engage an independent external reviewer to verify the tracking and allocation of funds to eligible projects or categories, and to conduct an independent impact assessment of the environmental benefits and externalities associated with financed projects until full allocation and in case of significant changes.

Best practices identified - reporting

- » Reporting covers material developments and issues related to the projects
- » Reporting on allocation of proceeds and benefits done at least at eligible category level
- » Exhaustive allocation reporting – balance or % of unallocated funds, types of temporary investments (e.g. cash or cash equivalent) and share of financing vs refinancing
- » Clear and relevant indicators to report on the expected environmental impact of all the projects, where feasible, or eligible categories
- » Disclosure of reporting methodology and calculation assumptions to bondholders at a minimum
- » Independent audit of the tracking and allocation of funds at least until full allocation and in case of material changes
- » Independent impact assessment on environmental benefits by a qualified third-party reviewer at least until full allocation and in case of material changes

Contribution to sustainability

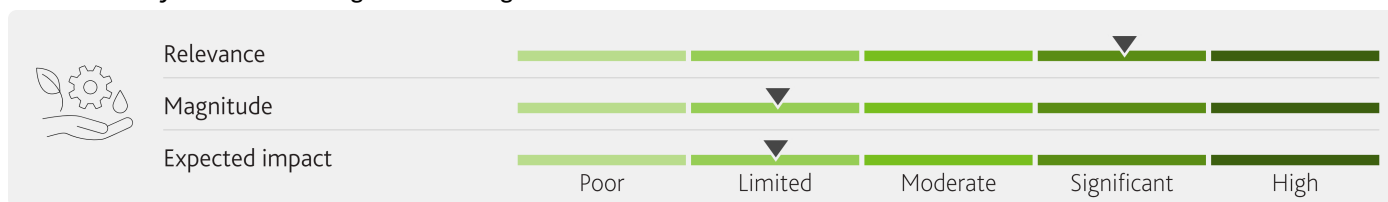
The framework demonstrates an overall moderate contribution to sustainability.



Expected impact

The expected impact of the eligible projects on environmental objectives is moderate. Based on information provided by the country, we estimate that proceeds from forthcoming issuances will be split evenly among the eight eligible categories. We have thus weighted the categories evenly for the purpose of assessing their contribution to sustainability.

Environmentally sustainable management of living natural resources and land use

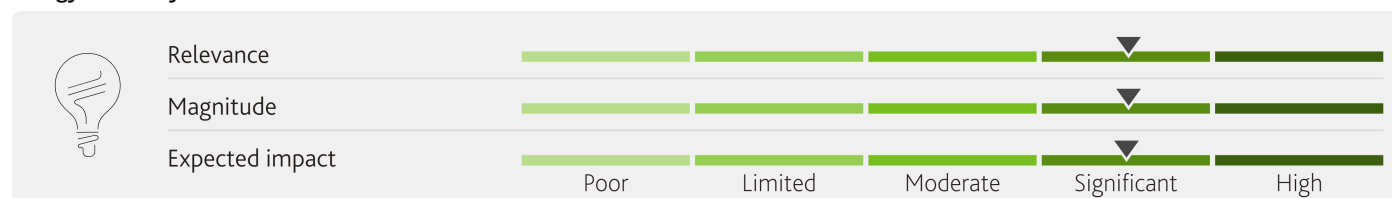


Saudi Arabia continues to face major challenges in achieving several indicators under SDG 15 (Life on land), reflecting its significant relevance. In particular, the country has low coverage of protected areas (around 16%) that are important sites for terrestrial and freshwater biodiversity. The government targets to increase the total protected area to more than 20% by 2030 and to 30% over the coming decades. Furthermore, to reduce emissions at the national level and contribute to the country's circular carbon economy (CCE) framework through nature-based solutions, the government is deploying a mass-scale afforestation program called the Saudi Green Initiative (SGI) to plant 10 billion trees in the country in the following decades. This plan is part of the wider Middle East Green Initiative (MGI), which aims to plant 40 billion trees across the Middle East.

In terms of magnitude, the projects to be financed under this category have the potential to provide short and long-term benefits, but exhibit limited magnitude overall. Significant environmental externalities are anticipated for the forestry projects linked to the SGI and MGI – which are expected to represent a large share of proceeds in this category – mainly due to the high consumption of water resources. To mitigate these risks, the issuer will assess the use of renewable water (e.g., treated sewage effluent (TSE), surface run-offs, sea water) through ongoing studies. The National Water Company (NWC) plantation project will only use TSE, but SGI projects may use TSE only as the main source of irrigation. Overall, we lack visibility on how the water impact associated with the projects will be addressed, especially considering that the country is one of the most water-scarce nations globally.

Planning of the projects will seek to avoid human displacement, and follow sustainable forestry practices and the Kingdom's regulatory framework. The SGI will follow three guiding principles: maintain ecological balance, use of native plant species, and use of renewable water resources. However, the sustainable management principles to be followed remain under development and have not been specifically detailed. In addition, eligible projects related to the preservation or restoration of biodiversity and natural landscapes, and increased green cover in urban centers have been broadly defined. Activities will include sludge management to enhance soil quality and allow for the plantation of saplings; for use as compost and fertilizer; and for energy replacement and potentially in construction. This category also finances R&D projects related to the management of living natural resources and land use, including studies on the type of soil and climate, reuse of TSE and the best types of trees to be planted, as well as those related to resource efficiency.

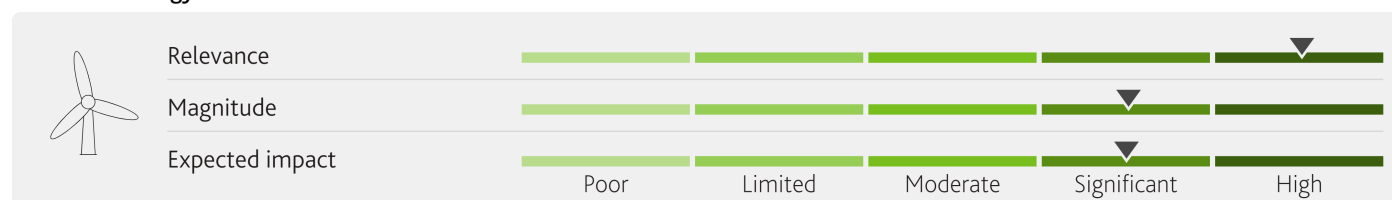
Energy efficiency



This eligible category is part of financing policies, measures and initiatives led by the Saudi Energy Efficiency Program (SEEP) and the National Energy Services Company (Tarshid), covering exclusively energy efficiency initiatives in buildings' renovations. According to the Kingdom of Saudi Arabia's Ministry of Energy, buildings represent 28% of the total primary energy demand in the country. The country has an overall target of decreasing domestic energy consumption in 2030 by an equivalent of one million barrels of oil per day from the current level, which is three times higher. Improving energy efficiency in buildings is a relevant challenge in the country, although not the most relevant issuer for the country in terms of climate mitigation, resulting in our assessment of a significant relevance for the category.

In terms of magnitude, the 30% energy efficiency targeted for the renovation of buildings is aligned with stringent international standards. However, the government has formulated energy efficiency labels for air conditioning without providing information on what performance level must be achieved for the technology to be considered eligible, and there are no criteria on minimum performance for buildings after renovation. Moreover, according to the International Energy Agency (IEA)², energy consumed per square meter in 2030 must be at least 35% less than in 2021 to be on track with the agency's Net Zero Scenario. All these factors combined result in our assessment of a significant magnitude score for this category.

Renewable energy

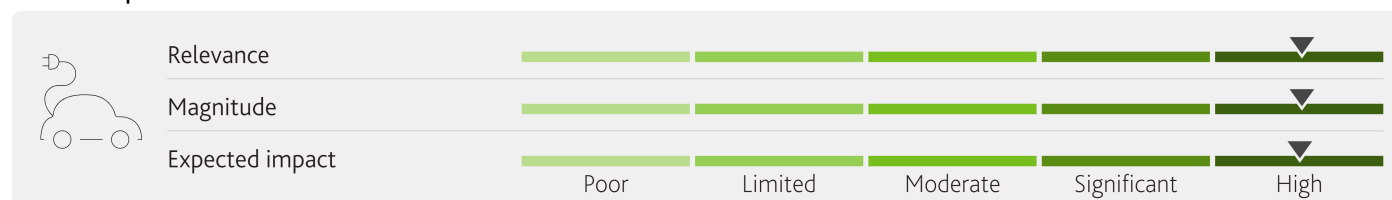


Renewable energy projects are highly relevant to the local context. Saudi Arabia's energy mix is dominated by unabated fossil fuels (99.8%), while renewables represent just 0.2% of the total energy mix³. This points to considerable opportunity for the country to diversify its energy mix and decarbonize its energy sector, including through increased deployment of renewables. Clean energy

technology projects under this category encompass solar (photo voltaic and concentrated solar power), wind (onshore), geothermal, green hydrogen, energy storage and renewable energy infrastructure.

In term of magnitude, most renewable energy generation projects under this category use the most advanced technologies and stringent thresholds with respect to clean energy and avoidance of potential negative locked-in effects. The issuer has specified that this category will finance any electricity generation technology that keeps GHG emissions below 100g CO₂/kilowatt-hour (kWh). Hydrogen will be produced via electrolysis using renewable energy with a carbon intensity below 100gCO₂/kWh. The issuer commits to electrolyzer efficiency of 45kWh/kgH₂. While this means projects will fall under a threshold of 4.5 kgCO₂/kgH₂, there are several more stringent thresholds in the market. The carbon content of the energy source for infrastructure and energy storage projects has been provided (100gCO₂/kWh). However, the technologies used have not been defined, creating uncertainty on the type of projects finance under the category. In particular, energy storage projects, such as pumped-hydro or power-to-gas, could entail significant externalities. The lack of clarity for both the associated infrastructure and energy storage sub-categories, coupled with hydrogen production for which better market standards exist, results in our assessment of a significant magnitude for the category.

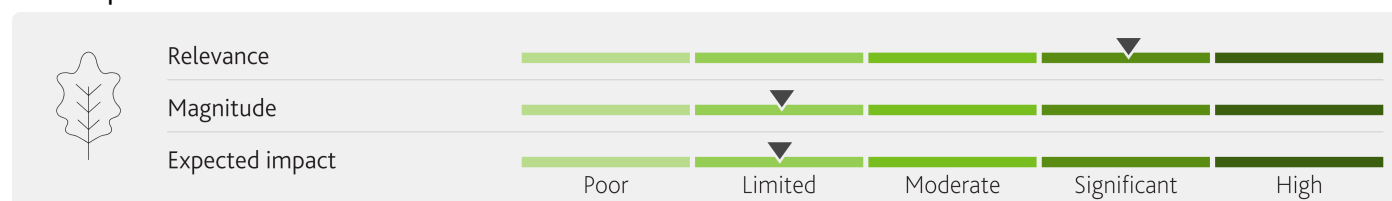
Clean transportation



Decarbonizing the transport sector in the KSA is highly relevant to respond to the challenge of reducing overall carbon emissions. According to Our World in Data, in 2019, the road transportation sector was the second largest carbon-emitting sector in the KSA at 139.92 million tonnes of CO₂ or 19% of overall carbon emissions, behind the electricity and heat sector.

In terms of magnitude, this category will finance only electric vehicles and related infrastructure, aligned with the most stringent standards, supporting our assessment of a high magnitude. The development of low- and zero-emission transport and infrastructure would support a reduction in transport-related greenhouse gas emissions over time. However, as Saudi Arabia's electricity mix still relies heavily on unabated fossil fuels, with emissions estimated at around 600gCO₂/kWh⁴, the benefits are expected to increase over time with the country's changing energy mix and lowered grid emissions intensity. Under the KSA's Vision 2030 agenda, the KSA aims to increase its share of renewables to approximately 50% of the overall energy mix by 2030.

Pollution prevention and control

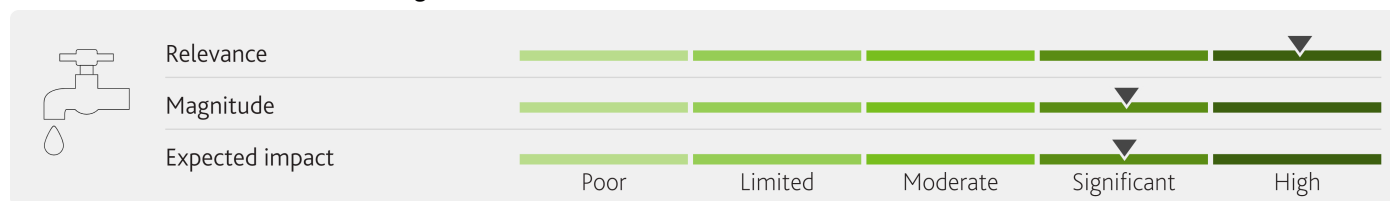


Carbon transition and air pollution are key environmental challenges for Saudi Arabia given the country's economic and fiscal dependence on the hydrocarbons sector. Projects under this category only include blue hydrogen and research and development (R&D) related to direct air carbon capture (DACC), which are considered relevant to address a highly important issue for the country, although other solutions covering a broader portion of the impact related to this objective exist. This results in our assessment of a significant relevance score for the category.

In terms of magnitude, blue hydrogen projects must meet a minimum GHG emission reduction threshold of 70% compared to hydrogen produced from fossil fuels without carbon capture with maximum lifecycle emissions of 112.8gCO₂e/MJ, resulting in a maximum output of 3.6kgCO₂e for each kilogram of hydrogen and the issuer has committed to permanently store the CO₂ captured. The blue hydrogen under the framework is considered to have a limited expected impact as it entails fossil fuel lock-in effects, there are more stringent thresholds in the market and the issuer has not defined thresholds to manage upstream leakages. R&D related to DACC could lead to a significant long-term contribution to climate change mitigation. We also anticipate the blue hydrogen category

to represent the majority of the allocation under this eligible category, resulting in our assessment of a limited magnitude for the category.

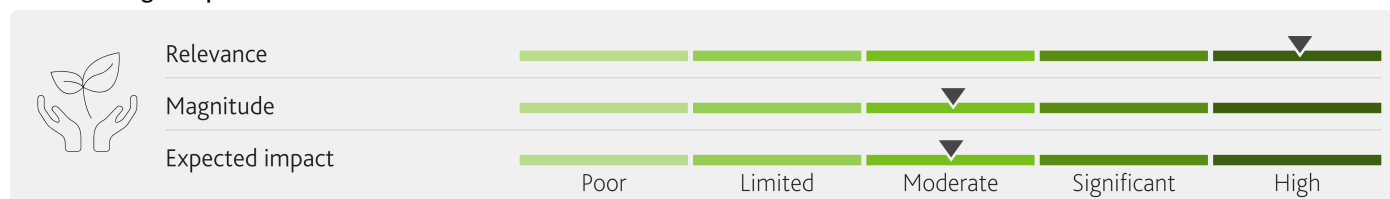
Sustainable water and wastewater management



Sustainable water and wastewater management projects are highly relevant to the country. Saudi Arabia is one of the world's most arid and water-scarce nations, and rapid economic and population growth in recent decades has exacerbated the challenges surrounding water sustainability. In 2019, the level of water stress (freshwater withdrawal as a proportion of available freshwater resources) increased by 20% from 2000. In 2021, the government provided 100% of its population with access to at least drinking water service, although only 59% has access to managed sanitation services. Desalination of seawater caters to most of the potable water needs of to the kingdom's population.

In terms of magnitude, eligible projects are expected to have medium- to long-term positive impact, reflected in a significant magnitude for the category. Energy consumption thresholds have been defined for wastewater and sewage water treatment plants, with the issuer aiming to reach net zero GHG emissions. A commitment to monitor methane leakages is in place. Desalination plants will be powered using renewable technologies, with power consumption below 2.27 kWh/m³ – and targeted to fall below 2 kWh/m³ – considered among the best available. Only reverse osmosis will be eligible and there is no intention to build thermal plants. The recovery ratio will be more than 60%, and management plans to address brine include the commitment to reach zero liquid discharge. With regards to sustainable solutions to reduce water shortage, leakage and efficiency, the country has targets for reducing water leakage and is implementing various projects and initiatives to achieve these goals. In 2019, Saudi Arabia launched a national program called "Qatrah," which intends to slash water consumption by about 43%, to 150 liters per capita, per day by 2030. Only rainwater harvesting and infrastructure leading to reduction in water leakage and improving water use efficiency is eligible for sustainable water solution.

Climate change adaptation

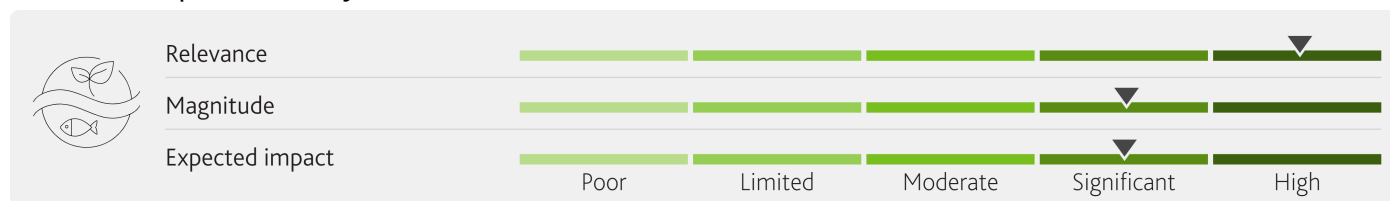


Saudi Arabia is exposed to high climate change risk according to Moody Analytics' sovereign physical climate risk scores, and it is particularly exposed to heat stress and water stress hazards. The World Bank also highlights other significant threats resulting from climate change that are affecting the country, including sea-level rise, high temperatures, heavy rainfall, flash floods, and sand and dust storms. In anticipation of worsening climatic conditions and increased adaptation needs, this category contains financing projects and activities to reduce the impact of physical climate risks, including extreme hazards such as floods and droughts, resulting in our assessment of a high relevance for the category.

In terms of magnitude, the issuer has provided a broad overview of activities to be financed under this category, which will include projects related to integrated water management planning, notably artificial aquifer recharge and storage (AARS) of desalinated water to recharge groundwater, and operation and maintenance of the country's hydrological network and monitoring of wells. The issuer also reports that this category will include activities linked to water and wastewater management — namely, TSE, which will reportedly help address water shortage problems and conserve scarce water resources. The reuse of STP sludge will also be included under this category. In addition, the government plans to implement adaptation measures with mitigation co-benefits, including its afforestation plans. The lack of clarity on how some of these will help achieve the objective of climate adaptation and that eligible projects could

entail negative externalities due to the enabling of upstream desalination plants without clarity on their environmental credentials, results in our assessment of a moderate magnitude for the category.

Terrestrial and aquatic biodiversity



A diverse ecosystem plays a crucial role in maintaining a healthy environment. For this reason, and considering the relatively low ecological diversity of the country, the government seeks to proactively preserve the Kingdom's natural habitats. Globally, life below water receives the second-lowest amount of capital invested in any of the SDGs, even though the ocean economy is among the largest. According to the SDG Index Dashboard, major challenges remain for Saudi Arabia with regard to life below water, particularly marine protected areas, underscoring our assessment of high relevance.

In terms of magnitude, eligible projects under this category aim to support the conservation and protection of coastal, marine and watershed environments and carry significant magnitude. Detailed information has been provided on most of the projects, which are likely to have a positive impact over the long term. Among the activities and projects financed are research, studies, field surveys, training, monitoring systems, rehabilitation projects (mangrove, sea grass and coral reef), media and awareness raising projects, and removal of debris. This category also includes projects linked to waste management processes, including treated sewage effluent, reuse of sludge, renewable sources for power supply, and other activities that lack clarity on how they help achieve the objective to conserve oceans, seas and marine resources.

ESG risk management

We have not applied a negative adjustment for ESG risk management to the expected impact score, as the country's legal system seeks to address relevant environmental protection risks (environment law dated July 2020), and environmental impact considerations are included in the award of public contracts. In terms of social risks, all eligible projects will be required to follow domestic labor laws, including the Labor Law (September 2005) and the National Policy on Occupational Safety and Health, which establish controls for labor safety, with the Ministry of Human Resources and Social Development responsible for monitoring compliance.

The country has also implemented mechanisms that align with the World Bank's Environmental and Social Safeguards Framework. These provisions cover a wide range of issues, including environmental and social impact assessments, labor and working conditions, land acquisition, land use restrictions, and involuntary resettlement, among others. However, according to Freedom Houses' Freedom in the World and ITUC's Global Rights Index, Saudi Arabia ranks among the least free countries in the world with limited civil liberties and no laws protecting the right to form independent labor unions among non-nationals, collective bargaining or engage in strikes. It has also been reported that the government has imposed severe punishments on protesters opposed to planned displacement, although the government has refuted such claims. ⁵⁶ While the domestic kafala system has been reformed, limitations on public outreach and engagement can potentially lead to social externalities. In recent years, the country has undertaken efforts to address these issues, as evidenced by the establishment of a legal framework that regulates a range of topics, including anti-harassment and human trafficking.

Coherence

We have not applied a negative adjustment for coherence to the expected impact score, as the eligible categories of the framework are consistent with Saudi Arabia's Circular Carbon Economy (CCE) program, the country's Vision 2030 and nationally determined contribution (NDC). Increasing energy efficiency and expanding renewable energy production (to achieve a target of 50% by 2030) are paramount to the country's climate efforts. Beyond the framework, the country's sustainability strategy also includes initiatives in hard-to-abate and fossil fuels sectors to reduce its scope 1 and 2 emissions. We also acknowledge that, as a sovereign issuer, the Kingdom has a mandate to manage socioeconomic disruption from the shift towards a lower-carbon economy.

Nevertheless, we note that the diversification plans and NDC do not capture oil and gas exports – which represent 73% of total goods exports and 29% of nominal GDP and account for the vast majority of the Kingdom's carbon footprint. The country also faces

challenges from scenarios in which global oil consumption significantly declines in the coming decades. Notably, under the IEA's Stated Policies Scenario, global oil demand would reach a high point in the mid-2030s before falling thereafter. The agency's Announced Pledges Scenario, meanwhile, shows a more pronounced decline by 2030.⁷ Despite this outlook, we anticipate that the country will continue to invest heavily in this sector, and that hydrocarbons production will continue to increase in the following years.

Appendix 1 - Mapping eligible categories to the United Nations' Sustainable Development Goals

The eight eligible categories included in the Kingdom of Saudi Arabia's framework are likely to contribute to seven of the UN's SDGs, namely:

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 6: Clean Water and Sanitation	Sustainable water and wastewater management	6.3: Improve water quality by reducing pollution, eliminating dumping and minimizing hazardous chemicals and materials 6.4: Increase water-use efficiency across all sectors and ensure sustainable supply of freshwater to reduce water scarcity
GOAL 7: Affordable and Clean Energy	Renewable energy Energy efficiency	7.2: Increase substantially the share of renewable energy in the global energy mix 7.3: Double the global rate of improvement in energy efficiency
GOAL 11: Sustainable Cities and Communities	Clean transportation Pollution prevention and control	11.2: Provide access to safe, affordable, accessible and sustainable transport systems for all 11.6: Reduce the adverse per capita environmental impact of cities, with special attention to air quality and waste management
GOAL 12: Responsible Consumption and Production	Environmentally sustainable management of living	12.2: Achieve the sustainable management and efficient use of natural resources
GOAL 13: Climate Action	Climate change adaptation Energy efficiency Environmentally sustainable management of living Renewable energy Clean transportation	13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries 13.2: Integrate climate change measures into national policies, strategies and planning
GOAL 14: Life Below Water	Terrestrial and aquatic biodiversity	14.2: Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts 14.5: Conserve at least 10% of coastal and marine areas, consistent with national and international law and scientific data
GOAL 15: Life on Land	Terrestrial and aquatic biodiversity Environmentally sustainable management of living natural resources and land use	15.1: Ensure the conservation and sustainable use of terrestrial and inland freshwater ecosystems and their services 15.3: Combat desertification and restore degraded land and soil 15.5: Reduce the degradation of natural habitats and biodiversity loss, and prevent the extinction of threatened species

The mapping of the UN's SDGs in this SPO takes into consideration the eligible project categories and associated sustainability objectives documented in the issuer's financing framework, and the resources and guidelines from public institutions, such as the ICMA's SDG Mapping Guidance and the UN's SDG targets and indicators.

Appendix 2 - Summary of eligible categories in the Kingdom of Saudi Arabia's framework

Eligible Category	Description	Impact Reporting Metrics
Environmentally sustainable management of living natural resources and land use	<ul style="list-style-type: none"> • Environmentally sustainable forestry (including afforestation or reforestation under the Saudi Green Initiative and the Middle East Green Initiative) • Preservation or restoration of biodiversity and natural landscapes • R&D related to management of living natural resources and land use • Increased green cover in urban centres 	<ul style="list-style-type: none"> • Number of biodiversity projects being undertaken • Area converted to sustainable management practices (km²) • Areas under restoration/rehabilitation (km²) • Areas conserved &/or recovered (km²) • Water loss reduction
Energy Efficiency	<ul style="list-style-type: none"> • Energy efficiency of buildings: these projects will meet a minimum standard of 30% or more improvement in energy intensity to be eligible. 	<ul style="list-style-type: none"> • Amount of CO₂ emissions avoided / reduced (tCO₂e) • Amount of energy saved (MWh) • Energy efficiency or intensity improvements (%)
Renewable Energy	<ul style="list-style-type: none"> • Renewable energy generation: Financing renewable energy projects to increase the share of renewable energy usage in the Kingdom of Saudi Arabia. Eligible renewable energy sources include the following solar, CSP, onshore wind, geothermal and hydrogen produced from renewables, in addition to any technology of electricity generation that does not cause carbon emissions or emissions are below 100gCO₂/kWh. • Renewable energy technologies: Incentives to promote and the above renewable technologies • Infrastructure linked to renewable energy: Renewables infrastructure (including related investments linked to the construction and operation of energy storage) 	<ul style="list-style-type: none"> • Amount of renewable energy generated or used (MWh) • Amount of energy saved (MWh) • Amount of CO₂ emissions avoided / reduced (tCO₂e)
Clean Transportation	<ul style="list-style-type: none"> • Financing electric vehicles and the related infrastructure including EV charging stations 	<ul style="list-style-type: none"> • Number of electric vehicles • Number of EV charging stations • Case studies
Pollution Prevention and Control	<ul style="list-style-type: none"> • Blue hydrogen: Projects that meets a minimum GHG emission reduction threshold of 70% compared to hydrogen produced from fossil fuels without carbon capture with maximum lifecycle emissions of 112.8gCO₂e/MJ, resulting in a maximum output of 3.6kgCO₂e for each kg of hydrogen. • Research, and development and pilots: projects related to Direct Air Carbon Capture (DACC): DACC removes CO₂ from ambient air, having potential to create net negative emissions (if CO₂ is sequestered); In contrast, point source carbon capture captures CO₂ from industrial facilities before it is released into atmosphere, having potential to create net-zero emissions (if CO₂ is sequestered). 	<ul style="list-style-type: none"> • Amount of CO₂ emissions avoided / reduced (tCO₂e) • Annual Hydrogen production
Sustainable Water and Wastewater Management	<ul style="list-style-type: none"> • Construction, extension and operation of wastewater and sewage water treatment plant - The net energy consumption of the waste water treatment plant equals to or is lower than: <ul style="list-style-type: none"> - 35 kWh per population equivalent (p.e.) per annum for treatment plant capacity below 10 000 p.e.; - 25 kWh per population equivalent (p.e.) per annum for treatment plant capacity between 10 000 and 100 000 p.e.; - 20 kWh per population equivalent (p.e.) per annum for treatment plant capacity above 100 000 p.e. • Construction, extension and operation of water collection, treatment and supply systems where average energy consumption of the system of maximum of 0.5 kWh per cubic meter produced water supply • Desalination plants using renewable technologies, with power consumption below 2.27 kWh/m³ and targeting to reach below 2 kWh/m³ • Sustainable solutions to reduce water shortage, such as rainwater harvesting and infrastructure to reduce water leakage and improve water use efficiency 	<ul style="list-style-type: none"> • Biochemical oxygen demand in rivers • Population connected to wastewater treatment with at least the second degree of treatment
Climate Change Adaptation	<ul style="list-style-type: none"> • Activities or measures related to enhancing resiliency, managing risks associated with and reducing reduce the impacts of extreme climatic events in vulnerable areas, such as flood, drought, extreme weather events etc. • Measures supporting the monitoring and prediction of weather and environmental conditions • Reinjection of Treated Sewage Effluent (TSE) into groundwater as per the Kingdom's standards • Artificial Aquifer Recharge and Storage (AARS) of desalinated water to recharge groundwater • Operation and Maintenance of the hydrological network and monitoring wells in the Kingdom 	<ul style="list-style-type: none"> • Consumption of CO₂ equivalent per kWh/ hour • Tons of CO₂ per year reduced
Terrestrial and Aquatic Biodiversity Conservation	<ul style="list-style-type: none"> • Conservation and protection of coastal, marine and watershed environments 	<ul style="list-style-type: none"> • Area of land affected / protected • Number of biodiversity projects being undertaken • Qualitative description in the form of case studies

Endnotes

- 1 Point-in-time assessment is applicable only on date of assignment or update.
- 2 see <https://www.iea.org/reports/breakthrough-agenda-report-2023/buildings>.
- 3 Latest figures from Ember's Yearly Electricity Data, 2022
- 4 [Carbon intensity of electricity](#), Our World in Data, October 2023
- 5 [OHCHR](#) UN press release, March 2023
- 6 [Official response Ref. 413-2920](#), The Permanent Mission of the Kingdom of Saudi Arabia to the United Nations Office and other International Organization at Geneva, July 2023
- 7 [World Energy Outlook 2022](#), International Energy Agency, November 2022

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