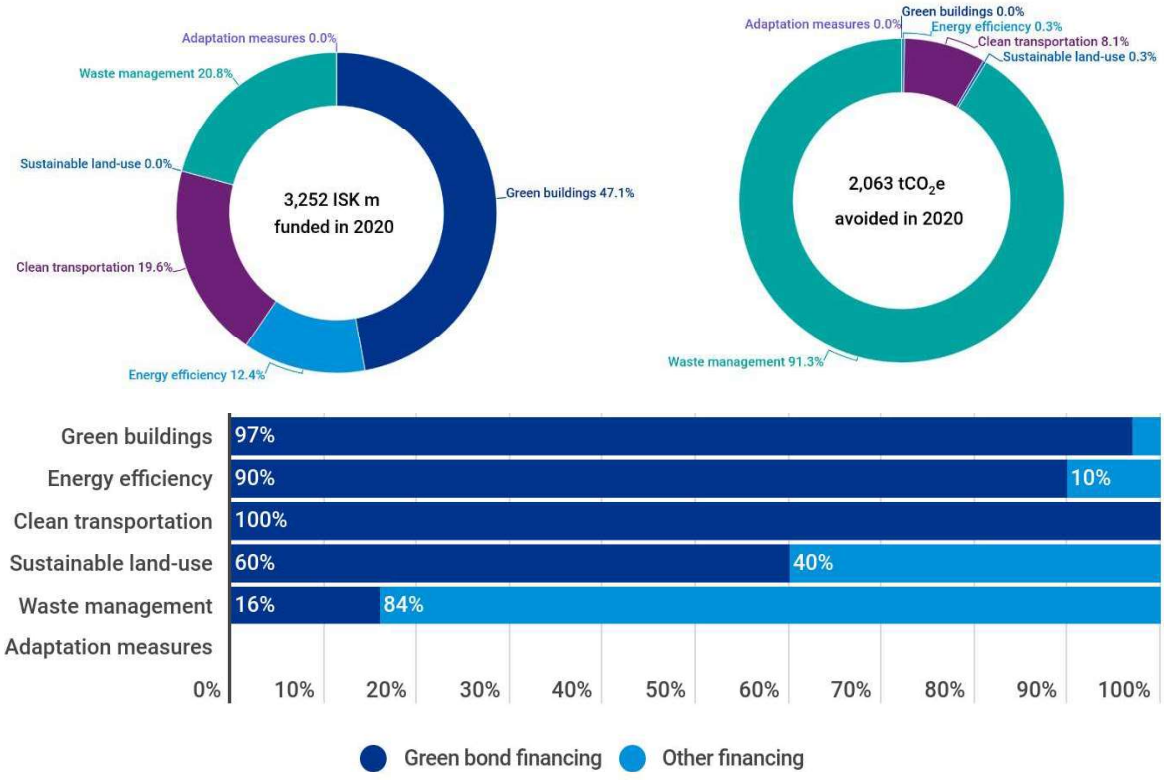
City of Reykjavík
Borgartún 12-14
105 Reykjavík

2020 Annual Green Bond Impact Report

In December 2018, the City of Reykjavík, the capital city of Iceland, established a Green Bond Framework with a refinancing look-back period to 2016, under which it has issued Green Bonds. Reykjavík was the first issuer of Green Bonds in Icelandic Kronas (ISK) as well as having been the first Icelandic issuer to be listed on Nasdaq's sustainable bond index. Reykjavík's Green Bond Framework received a second opinion from CICERO Shades of Green, a leading global provider of second opinions. Reykjavík received a 'dark green' rating on the overall framework and for each of the underlying project categories. In addition, it received an 'excellent' rating for its Green Bond governance.

In the year 2020 it issued a total of ISK 3,814 m of Green Bonds and used ISK 3,252 m to fund Eligible Projects (as defined in the Framework), the outstanding amount at year-end was ISK 562 m. The financed Eligible Projects resulted in total avoided emissions of 2,063 tCO_2e.[1] The donut graphs show the distribution of financing (left) and the avoided emissions (right). The tables on next page show accumulated funding and impacts from the funded Eligible Projects.



[1] For Eligible Projects funded by financing activities in the year 2019, the resulting avoided emissions are 1,184 tCO_2e in the year 2020. The overall impact in 2020 is thus 2,063 + 1,184 = 3,247 tCO_2e as reflected in Table 2 on page 2.

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Table 1: Overview of funding to each eligible project funded under Reykjavik's Green Bond Framework and % of total investment to date.

Eligible Project category	Eligible Project	2016	2017	2018	2019	2020	Green bond proceeds allocated	% of total investment to date
					ISK m			
Green buildings	Sundlaug	478	800	0	0	0	1,277	89%
	Dalskóli	918	885	1,721	1,245	412	5,181	99%
Energy efficiency	LED lighting	37	89	68	277	414	885	90%
Clean transportation	Walking and cycling paths	445	237	504	354	320	1,860	100%
	Clean bin lorries	98	0	42	0	0	141	100%
	E-vehicles	0	12	0	3	49	65	100%
	Charging stations	0	8	67	8	82	165	98%
Sustainable land-use	Wetland reclamation	0	0	4	15	14	34	60%
Waste management	Gas- and composting plant	0	0	199	113	563	875	16%
Adaptation measures	No project	0	0	0	0	0	0	0%
Total							**10,482**	**97%**

Table 2: Overview of the impact of each eligible project funded under Reykjavik's Green Bond Framework and the impact ratio to funds invested from green bond issuances.

Eligible Project category	Eligible Project	2016	2017	2018	2019	2020	Total avoided	Impact ratio kgCO2e/ISK
					tCO_2 equivalents			
Green buildings	Sundlaug	0.0	0.0	3.1	2.8	2.8	8.6	7
	Dalskóli	2.6	2.1	1.9	2.3	2.8	11.6	2
Energy efficiency	LED lighting	0.0	2.0	2.0	15.6	15.1	34.6	39
Clean transportation	Walking and cycling paths	83.3	202.2	351.7	418.0	516.2	1,571.3	845
	Clean bin lorries	41.2	25.6	51.7	74.3	68.7	261.4	1,859
	E-vehicles	0.0	1.2	4.4	5.6	12.1	23.2	359
	Charging stations	0.0	0.0	3.3	18.4	34.4	56.0	340
Sustainable land-use	Wetland reclamation	0.0	0.0	0.0	106.0	158.3	264.3	7,880
Waste management	Gas- and composting plant	0.0	0.0	0.0	0.0	2,436.4	2,436.4	2,784
Adaptation measures	No project	0.0	0.0	0.0	0.0	0.0	0.0	0
Total		**127.0**	**232.9**	**418.0**	**642.9**	**3,246.7**	**4,667.5**	**445**

About Reykjavik

Reykjavík, a city of approximately 130,000 people, has published an extensive climate policy in which it lays out its plan to become carbon neutral by 2040 and adapt to climate change. Reykjavík has furthermore signed the Covenant of Mayors in 2011, the objective of which is to implement EU climate and energy objectives, and participates in the Compact of Mayors, an agreement to undertake transparent and supportive approach to reduce city-level GHG emissions and enhance resilience to climate change. The proceeds from the bond issuance have been used

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to fund projects reducing Greenhouse Gas (GHG) emissions and help the City of Reykjavik to achieve its climate objectives.

Green buildings

Dalskóli, a combined kindergarten, elementary school, and an after-school recreational centre, located in the Úlfarsárdalur area, in the eastern part of Reykjavík. In addition to providing positive social benefits in terms of access to education and essential service, the school's building is expected to achieve BREEAM 'Very Good' certification, which is underway, as required by the Green Bond Framework. The Sundhöll Reykjavíkur swimming pool has achieved BREEAM Very Good certification and is outperforming comparable swimming pools with regards to energy efficiency. The relatively modest climate change impact is a result of the low carbon intensity of energy supply for houses in Reykjavik as electricity is supplied by hydropower and geothermal power plants.

Green buildings	2016	2017	2018	2019	2020	Total tCO_2 equivalents
Sundlaug	0.0	0.0	3.1	2.8	2.8	8.6
Dalskóli	2.6	2.1	1.9	2.3	2.8	11.6
Total	**2.6**	**2.1**	**4.9**	**5.1**	**5.6**	**20.2**

Energy efficiency

LED lighting can provide light illumination with much lower energy consumption than by other means. Compared with conventional lighting, LEDs can be up to 40-60% more energy efficient while also providing more secure lighting to Reykjavík's citizens. In 2016, Reykjavík began the preparation for replacing incandescent bulbs in its street lighting. To date, more than 5,743 light bulbs have been replaced. The relatively modest climate change impact is a result of the low carbon intensity of energy supply for lighting in Reykjavik.

Energy efficiency	2016	2017	2018	2019	2020	Total
			tCO_2 equivalents			
LED lighting	0.0	2.0	2.0	15.6	15.1	34.6
Total	**0.0**	**2.0**	**2.0**	**15.6**	**15.1**	**34.6**

Clean transportation

Reykjavík has a comprehensive plan to increase the share of cyclists in the city. A part of this plan is to construct and improve cycling routes. In 2020, the construction of 15.2 km of cycling and walking paths were financed with Green Bond proceeds.

Reykjavík has invested in biogas powered bin-lorries which avoid the use of fossil fuel when collecting waste from its residents. Charging stations for electric vehicles have been installed in various locations around Reykjavík. This infrastructure is crucial in order to minimize the population's dependence on vehicles using fossil fuel. In addition, the city has purchased electric cars to be used in its own operation.

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Clean transportation	2016	2017	2018	2019	2020	Total
			tCO_2 equivalents			
Walking and cycling paths	83.3	202.2	351.7	418.0	516.2	1571.3
Clean bin lorries	41.2	25.6	51.7	74.3	68.7	261.4
E-vehicles	0.0	1.2	4.4	5.6	12.1	23.2
Charging stations	0.0	0.0	3.3	18.4	34.4	56.0
Total	**124.5**	**228.9**	**411.0**	**516.2**	**631.4**	**1911.9**

Waste management

A valuable input in the transformation from fossil fuels dependence to renewables in transportation is the use of biogas which is already being produced in Iceland. Plans are to increase the capacity of such production in a new plant in Álfsnes. This biogas plant is estimated to begin operation in 2020, where facilities will cover 12,800 m^2 and are expected to produce 3 million Nm^3 of biogas.

The plant was not fully operational for the whole of 2020. It was started up in later part of the year and was mostly operating in a start-up phase. However, the plant processed 2,209 tonnes of waste, which would have been landfilled resulting in production of 31,000 Nm^3 of methane gas for vehicles.

Waste management	2016	2017	2018	2019	2020	Total
			tCO_2 equivalents			
Gas- and composting plant	0.0	0.0	0.0	0.0	2,436.4	2,436.4
Total	**0.0**	**0.0**	**0.0**	**0.0**	**2,436.4**	**2,436.4**

Sustainable land-use

Wetland reclamation is an effective way of preventing emissions of GHGs. The Icelandic government has defined wetland reclamation as one of the key actions to address climate change in order to meet the country's obligations towards the Paris Agreement.

In 2020, the City of Reykjavík began reclaiming wetlands for a total of 17 hectares. The reduction of GHG emissions, because of this operation, will continue for the next several years. The wetland reclamation project, when completed, is estimated to reclaim wetlands of over 87 hectares. It is 29 hectares to date.

Sustainable land-use	2016	2017	2018	2019	2020	Total
			tCO_2 equivalents			
Wetland reclamation	0.0	0.0	0.0	106.0	158.3	264.3
Total	**0.0**	**0.0**	**0.0**	**106.0**	**158.3**	**264.3**

Methodology

Avoided greenhouse gas emissions, detailed in this report, are emissions that would have been emitted if the projects funded by Reykjavík's green bonds would not have been initiated. Methodologies used for these impact calculations are based on relevant international guidelines

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and standards.[2] For the project categories 'green buildings' and 'energy efficiency', the avoided impact due to decreased electricity use is estimated based on Iceland's electricity grid carbon intensity of 9.8 gCO2e/kWh. For the category 'clean transportation', a consequential life-cycle perspective approach was used. Fossil fuel vehicles are assumed to be replaced. For the cycling infrastructure, the cyclists are counted electronically in various locations around the city. These numbers were used to estimate the frequency of cyclists using the added infrastructure. The impact of the category 'sustainable land-use' was found by estimating the impact of wetland reclamation using relevant location-relevant factors. Recent research has shown avoided emissions to be 19.5 $tCO_2e\ ha^{-1}yr^{-1}$, which was applied proportionally to these impact calculations. The impact of the gas- and composting plant was found by estimating the difference in impact between landfilling the waste processed and the production of gas to be used by vehicles and composting what remains.

KPMG's role

KPMG ehf. was appointed to calculate the positive environmental impact of Reykjavik's green bond funded operations at the year-end 2020. KPMG advised on the methodology, received necessary data from Reykjavik and calculated the financial impact. KPMG's engagement was not bound by any assurance standards nor provided an opinion.

15 April 2021

[2] International Capital Market Association's Green Bond Principles' Handbook on Harmonized Framework for Impact Reporting (December 2020)

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Independent Auditor's Assurance Report

To the City of Reykjavik's City Council and Green Bond holders

Assurance scope

The scope of our work was limited to verifying that the proceeds of the Green Bond issue were used for funding selected eligible projects as reported in the Annual Green Bond Impact Report for 2020.

Responsibilities of The City of Reykjavik

The net proceeds from the Green Bond issue is managed by the City of Reykjavik's Office of Finance. It is the responsibility of the Office of Finance to allocate the proceed to the eligible projects selected by a Selection Committee and approved by the City Council. Office of Finance is also responsible for preparation of the Annual Green Bond Impact Report which is free from material misstatements, whether due to fraud or error, in accordance with the Green Bond Framework from December 2020.

Responsibility of the auditor

Our responsibility is to express an assurance conclusion for the subject matter at hand and which is included in the Annual Green Bond Impact Report, based on the procedures we have performed and the evidence we have obtained.

We conducted our assurance engagement in accordance with *ISAE 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial information* issued by the IASB.

Our independence and quality control

We have complied with independence and other ethical requirements of the Code of Ethics for professional Accountants issued by the International Ethics Standards Boards for Accountants which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We apply *ISQC 1 International Standard on Quality Control* and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Work performed

During our assurance engagement we reconciled the list of funded projects to the selected eligible projects. We performed assurance procedures on accounting transactions and capital movements in the Green Account. We have also reviewed the Annual Green Bond Impact Report for 2020 and performed assurance procedures on the completeness and accuracy of reported information as described on the Green Bond Framework.

Conclusion

Based on the assurance procedures we have performed and the evidence we have obtained, we conclude, in all material aspects, that the proceeds of the Green Bond issue has been used to fund the selected eligible projects as reported in the annual Green Bond Impact Report for 2020.

Reykjavík, 27 April 2021

On behalf of Grant Thornton endurskoðun ehf

Sturla Jónsson

State Authorized Public Accountant