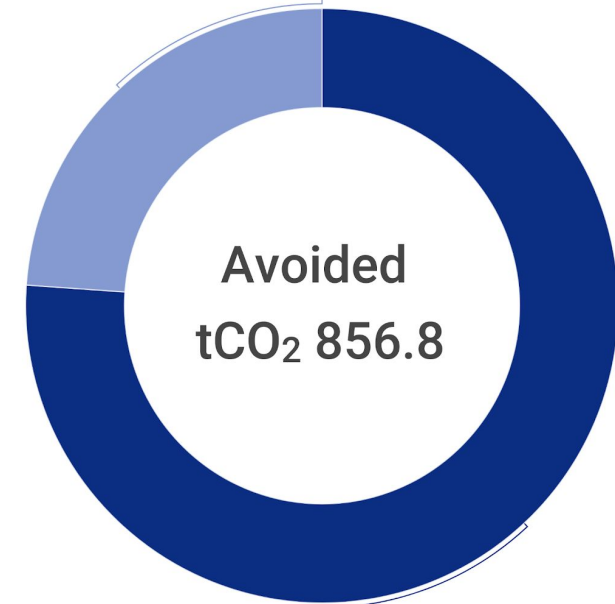


# THE CITY OF REYKJAVÍK GREEN BOND IMPACT REPORT 2018

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Clean transportation ISK 976.3 m



Green buildings ISK 3,110.2 m



## INTRODUCTION

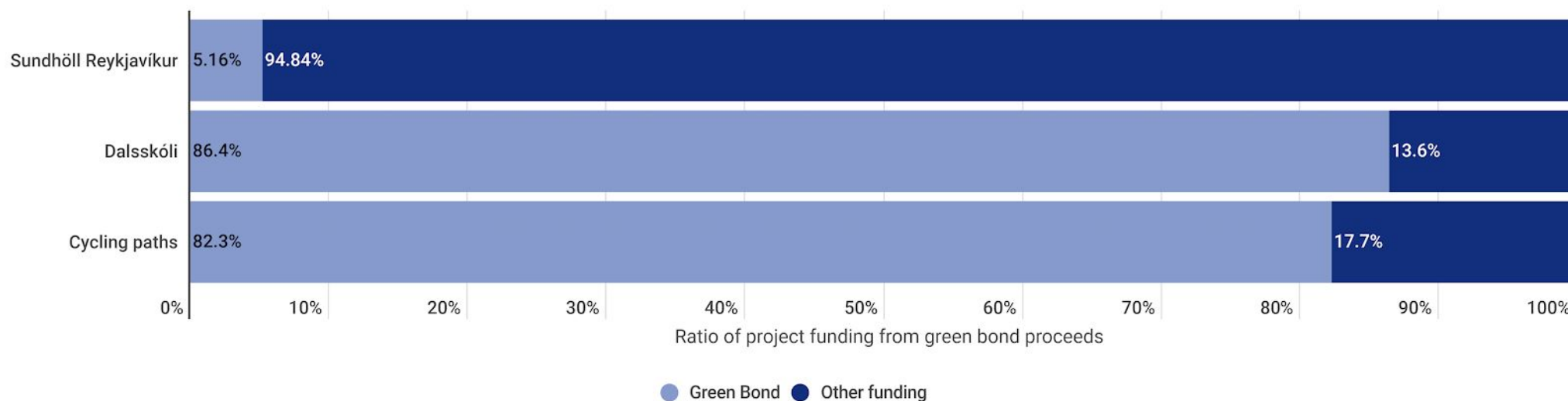
In December 2018, the City of Reykjavik established a Green Bond Framework under which it issued a green bond for the first time that same month. This Green Bond Annual Impact Review details the environmental impacts in terms of avoided greenhouse gas emissions due to the funded projects to ensure investors and other stakeholders with transparency and quality. The impact assessment illustrates the accumulated and annual environmental benefits.

The proceeds from issued green bonds in 2018 amounted to a total of ISK 4,086.5 m that were used to finance Eligible Projects, both new and existing ones, as defined in the Green Bond Framework.<sup>1</sup> The funded projects are under the green buildings and clean transportation project categories. Other project categories were not funded in 2018. The largest share of financing went to the BREEAM certified school, Dalskóli. In addition, walking and cycling paths were financed as well as an extension of Sundhöll Reykjavíkur swimming pool.

The table below further demonstrates how the total proceeds of ISK 4,086.5 m were allocated to different project categories and individual projects and what the total investments were from 2016.

Project category	Project	2016 ISK m	2017 ISK m	2018 ISK m	Total investment ISK m	Green bond ISK m	% of total investment
Green buildings	Sundhöll Reykjavíkur	477.9	799.6	111.6	1,389.1	71.7	5.16%
Green buildings	Dalskóli	917.7	880.4	1,717.5	3,515.6	3,038.5	86.4%
Clean transportation	Walking and cycling paths	445.1	237.1	504.1	1,186.3	976.3	82.3%
	Total	1,840.7	1,917.1	2,333.2	6,091.0	4,086.5	

<sup>1</sup> A look-back period to the year 2016 was used for refinanced projects. Financed projects in 2018 were considered as new projects.



## AVOIDED GREENHOUSE GAS EMISSIONS

Avoided greenhouse gas emissions are emissions that would have been emitted if projects or the environmental criteria detailed under the Green Bond Framework would not have been initiated. This means that funded buildings would not be as energy efficient and fewer people would commute on bicycles.

From 2016 and throughout 2018, the calculated avoided emission of greenhouse gases resulting from these projects was 1,036.4 tCO<sub>2</sub>e (tonnes CO<sub>2</sub> equivalents). Thereof, a total of 856.8 tCO<sub>2</sub>e were attributed to the proceeds from the green bond issuances. For 2018 these amounted to 293.41 tCO<sub>2</sub>e. For every ISK million invested an accumulated 0.21 tCO<sub>2</sub>e have been avoided at year-end 2018.

The tables below illustrate the aggregated amount of avoided greenhouse gas emissions for each year - further detailed for each project below.

	2016	2017	2018	Total
tCO <sub>2</sub> e avoided	280.32	283.02	293.41	856.8

	Total investment	Investment from bond	Total avoided CO <sub>2</sub>	Total avoided CO <sub>2</sub> from bond	tCO <sub>2</sub> avoided per ISK m
Project portfolio	6,091.0	4,086.5	1,036.4	856.8	0.21

## CLEAN TRANSPORTATION: Cycling and walking paths

	2016	2017	2018	Total
tCO <sub>2</sub> e avoided	280.2	282.9	291.5	854.6

The City of Reykjavik has a comprehensive plan to increase the share of cyclists in the city.<sup>2</sup> A part of this plan is to continuously construct and improve cycling routes within the city. In 2018, a part of the proceeds from green bond issuances was used to finance, in part, the construction of 12 km of cycling and walking paths.

The accumulated avoided greenhouse gas emissions allocated to the 12 km cycling paths amount to 854.6 tCO<sub>2</sub>e and 291.5 tCO<sub>2</sub>e in 2018 due to a consequent decrease in car commuting.



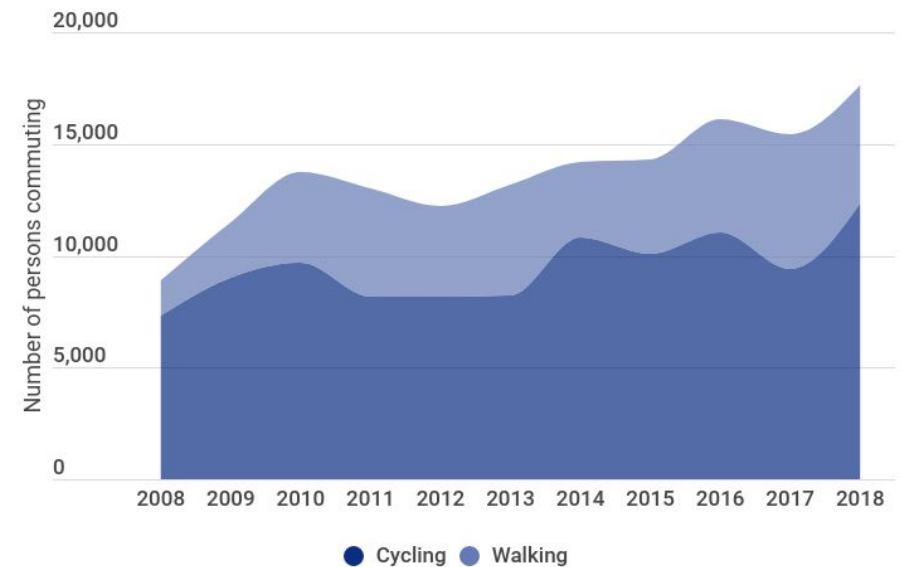
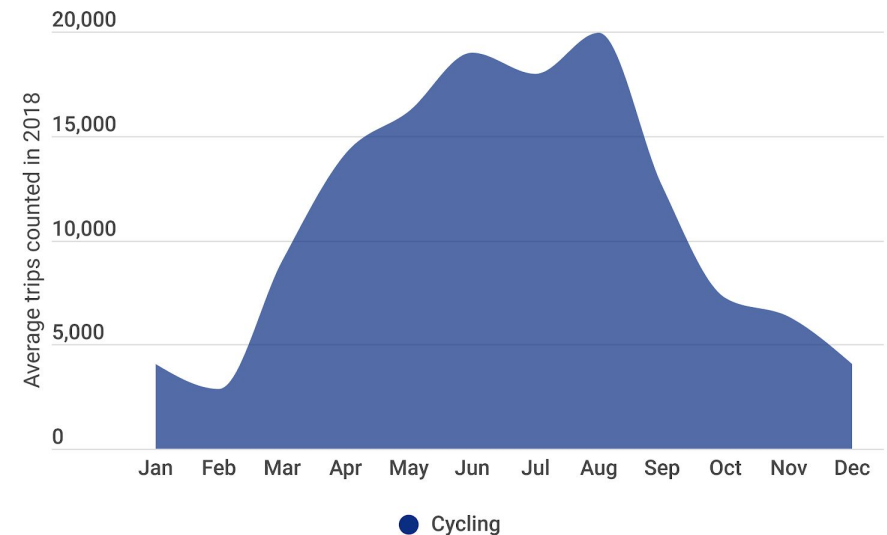
7 AFFORDABLE AND CLEAN ENERGY



11 SUSTAINABLE CITIES AND COMMUNITIES



13 CLIMATE ACTION



<sup>2</sup> The cycling plan can be accessed at [www.hjolaborgin.is](http://www.hjolaborgin.is) (in Icelandic).

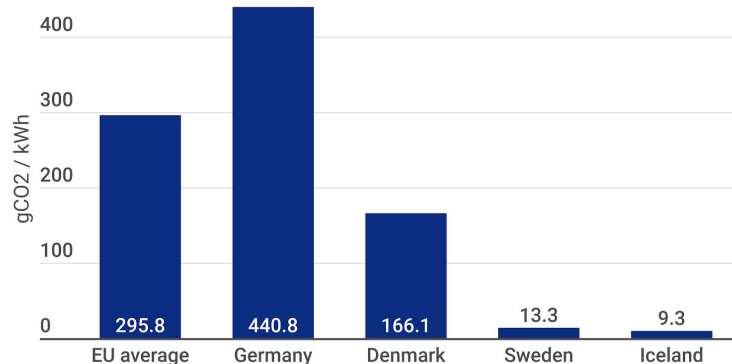
## GREEN BUILDINGS

### Dalskóli

	2016	2017	2018	Total
tCO <sub>2</sub> e avoided	0.12	0.12	1.71	1.95
MWh saved	13.4	13.4	183.6	210.4

Dalskóli, a combined kindergarten, elementary school, and an after-school recreational centre, is located in the Úlfarsárdalur area, in the eastern part of Reykjavík. In 2019, the school is expected to achieve BREEAM 'Very Good' certification as required by the Green Bond Framework.

For Dalskóli, a total of 1.71 tCO<sub>2</sub>e were avoided in 2018. For the previous years, 2016 and 2017, 0.12 tCO<sub>2</sub>e were avoided each year as the school was only in partial operation. Picture below: electricity grid comparison.<sup>3</sup>



<sup>3</sup> The electricity grid comparison above is further explained in the Methodology chapter.

### Sundhöll Reykjavíkur

	2016	2017	2018	Total
tCO <sub>2</sub> e avoided	0.0	0.0	0.2	0.2
MWh saved	0	0	20.2	20.2

Sundhöll Reykjavíkur was originally opened to the public in 1937. The original swimming pool was designed by Guðjón Samúelsson, the State architect at the time. An addition to the pool was opened in December 2017 and achieved a BREEAM 'Very Good' certification in January 2019.

The addition to Sundhöll Reykjavíkur had accumulated CO<sub>2</sub> savings of 0.2 tonnes in 2018. In 2016 and 2017, no emission savings are estimated as construction was taking place.





## METHODOLOGY

Consequential life cycle assessment approach was used to estimate avoided emissions from the added cycling infrastructure. Cyclists are counted electronically in various locations around the city. These numbers were used to estimate the frequency of cyclists using the added infrastructure. Calculations furthermore consider fluctuations in population and cycling behaviour examined in surveys.

For green buildings, the methodology for estimating avoided emissions was adopted from guidelines provided by Nordic Public Sector Issuers.<sup>4</sup> The Icelandic electricity grid mix has been estimated to emit 9.3 gCO<sub>2</sub>e/kWh.<sup>5</sup> The Icelandic electricity grid mix consists mainly of electricity produced by using hydro and geothermal energy. The energy savings because of increased efficiency in buildings are therefore less than in countries in which electricity is produced using, partly or mainly, fossil fuels. This difference can be seen in the figure on page 5.

## IMPACT ASSURANCE REVIEW

CIRCULAR Solutions was appointed by the City of Reykjavík to conduct this Annual Impact Review. This review details (1) the compliance of the funded projects to the Eligible Projects criteria, and (2) the environmental impact assessment, i.e. the avoided greenhouse gas emissions due to the funded projects based on internationally recognisable methodologies.

All three projects funded by the proceeds of bond issuances in 2018, by the City of Reykjavík under its Green Bond Framework comply with the Eligible

Project criteria detailed in the Framework. The funded projects comply with the following project categories listed in the Framework: green buildings and clean transportation.

Based on the aforementioned methodologies, the funded projects demonstrate a positive environmental impact, i.e. facilitate avoided greenhouse gas emissions. The total avoided greenhouse gas emissions for the project portfolio amount to 1.036,4 tCO<sub>2</sub>e of which 856.8 tCO<sub>2</sub>e are assigned to the proceeds from green bonds issued in 2018 under the City of Reykjavík's Green Bond Framework.

5 April 2019

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<sup>4</sup> Nordic Public Sector Issuers: Position Paper on Green Bonds Impact Reporting, 2019.

<sup>5</sup> National Inventory Report. Emissions of Greenhouse Gases in Iceland from 1990 to 2016. The Environment Agency of Iceland.

## DISCLAIMER

CIRCULAR Solutions, an independent and leading provider of green bond and sustainability consulting in Iceland conducted this green bond impact report and assurance review. The City of Reykjavík is responsible for providing CIRCULAR Solutions with accurate documentation and information relating to the details of the projects that have been funded by Green Bond issuances under its Green Bond Framework, including but not limited to a description of its investment activities/Eligible Green Projects and funded projects, estimated and realised costs of the projects, and project impact. CIRCULAR Solutions actively collected and reviewed the documentation and information from the City of Reykjavík to confirm its compliance with its Green Bond Framework. CIRCULAR Solutions made all efforts to ensure the highest quality and rigour during its assessment process.

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## CITY OF REYKJAVÍK - INVESTOR RELATIONS

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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 2018.

### **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 2018.

### **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 2018 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 2018.

Reykjavík, 10. April 2019

On behalf of Grant Thornton endurskoðun ehf



Sturla Jónsson

State Authorized Public Accountant