



Green Finance Framework

30 April 2020

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1. Introduction

National University of Singapore (“NUS” or the “University”) traces its origin to a medical school founded in 1905. It was established in 1980 as a statutory board pursuant to the National University of Singapore Act (Cap. 204) (which has since been repealed) through a merger of the University of Singapore and Nanyang University. NUS, in its current form, was corporatised pursuant to the National University of Singapore (Corporatisation) Act (Cap. 204A) and established as a non-profit public company limited by guarantee under the Companies Act (Cap. 50) of Singapore in April 2006.

NUS’ mission is to educate, inspire and transform, through its pioneering and innovative academic programmes, influential research and visionary enterprises, to improve lives and contribute to society. Being committed to excellence, it has received strong endorsement from its peer institutions over the years, ranking it among of the best universities in Asia and the world consistently.

NUS offers a broad-based curriculum, multidisciplinary courses and cross-faculty enrichment. It not only offers 70 bachelor’s degree programmes, there are also over 140 masters, PhD and graduate diploma programmes too. In addition, it also manages over 70 double, joint and concurrent degree programmes with top universities overseas. It has about 40,000 students from 100 countries who enrich its vibrant and diverse campus community.

NUS has 29 university-level research institutes and centres. It has also established many research partnerships and joint laboratories with various academic institutions, industry leaders and government agencies. The industry collaboration facilitates technological applications and transfer as well as the commercialisation of research. Most of the research at NUS is integrated and multidisciplinary in nature, with particular emphasis on themes that include energy, environmental and urban sustainability; treatment and prevention of diseases common among Asians; active ageing; advanced materials; as well as risk management and resilience of financial systems. Its latest research focus is on the use of data science, operations research and cybersecurity to support Singapore's Smart Nation initiative.

NUS also actively promotes innovation and global entrepreneurship. Eleven NUS Overseas Colleges have been established in the United States, China, Sweden, Israel, Southeast Asia as well as in Singapore to nurture entrepreneurs by immersing the selected students in challenging entrepreneurial environments.

In tandem with Singapore's development as a dynamic city-state, NUS strives to excel in education, research and service in pursuit of its vision of becoming a leading global university, shaping the future.

2. NUS' Commitment to Sustainability

NUS is committed to protecting the environment. It seeks to incorporate sustainability in all aspects of campus life – from research, education, operations, planning, construction, and instruction to public service.

Within the NUS Sustainability Strategic Plan 2017 – 2020¹, NUS has identified the University's six key environmental impact areas with accompanying goals and actions namely carbon emissions, energy, water, waste management and recycling, built environment and green spaces (in buildings). The plan is intended to evolve as NUS continues to innovate and implement new technological solutions as they become available. The NUS Sustainability Steering Committee chaired by Senior Vice President (Campus Infrastructure) oversees the overall strategy and implementation.

As a global university that contributes to the development of knowledge base, NUS also aims to conduct cross-disciplinary research for a better and sustainable future for Singapore and the world, while facilitating academia-industry collaboration to accelerate the process of research translation in solving real world problems. It formed the NUSustainability Cluster to bring faculty members, students and staff together to address sustainability challenges holistically. Using the campus as a living lab, NUS aims to foster idea generation and collaboration among the players to fully integrate sustainability issues into their research, education and campus life.

3. Green Finance Framework

With its strong commitment to protecting the environment, NUS foresees strong pipeline of projects that will have clear environmental benefits. NUS has prepared this Green Finance Framework (the "Framework") with an intention to enter into multiple Green Finance Transactions ("GFTs") in the future, including but not exclusively Green Bonds and Green Loans.

This Framework outlines the criteria and guidelines for allocating the proceeds from the GFTs that the University enters into. As a university that is widely known for its prudent and rigorous approach, NUS aims to abide by the highest international standards for its Green Finance Framework. Therefore, this Framework is prepared to be in line with the below principles:

¹https://uci.nus.edu.sg/oes/wp-content/uploads/sites/11/2018/09/NUS_Sustainability_Strategic_Plan_2017_2020.pdf

- Green Loan Principles (“GLP”) (2018) by the Loan Market Association (LMA) and Asia Pacific Loan Market Association (APLMA)²
- Green Bond Principles (“GBP”) (2018) by the International Capital Market Association (“ICMA”) ³; and
- ASEAN Green Bond Standards (2018) by the ASEAN Capital Market Forum (“ACMF”) ⁴

The Framework comprises four core elements, namely: 1) Use of Proceeds, 2) Process for Project Evaluation and Selection, 3) Management of Proceeds, and 4) Reporting.

For the avoidance of doubt, the GFTs may be in any currency, tenor or with other terms and conditions, including covenants, to reflect NUS’ financing strategy as well as the outcome of commercial discussions between the University and third parties.

3.1 Use of Proceeds

Net proceeds raised from the GFTs will be used exclusively to finance or re-finance the Eligible Green Projects as defined below.

Eligibility Criteria for Green Projects

NUS Focus Area aligned with GBP/GLP Project Categories	Project Examples
Green Buildings/Precinct	<ul style="list-style-type: none"> • Buildings with green building certificates • BCA Green Mark: Gold^{PLUS} or above • Any other equivalent green building label that is of an equivalent standard as the above
Renewable Energy and Energy Efficiency Infrastructure and systems	<ul style="list-style-type: none"> • Installation of renewable energy facilities such as solar panels, energy storage, fuel cells, smart grid and power automation • Construction of dedicated transmission and support infrastructure for renewable energy • Upgrading/Consolidation of chillers to Precinct Level Cooling Infrastructure

² <https://www.aplma.com/en/news/2205/APLMA-%25252F-LMA-%25252F-LSTA-Green-Loan-Principles-and-Sustainability-Linked-Loan-Principles?back=1&year=>

³ <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2018/Green-Bond-Principles---June-2018-140618-WEB.pdf>

⁴ <https://www.theacmf.org/initiatives/sustainable-finance/asean-green-bond-standards>

	<ul style="list-style-type: none"> • Capital improvements to reduce energy utilisation intensity of labs, offices and teaching facilities • Installation of smart and centralised energy and occupation management, to match supply-&-demand loads and push for productivity/wellness of occupants • Construction of waste-to-energy plant
Sustainable Water and Wastewater Management	<ul style="list-style-type: none"> • Upgrading water related facilities for better efficiency • Harvesting of rainwater • Consolidation of chiller plants (which reduce numbers of cooling towers) • Smart monitoring and predictive maintenance of water distribution network (reducing illegal access & leakages) • Construction of treatment system to improve quality of waste-water.
Pollution Prevention and Control	<ul style="list-style-type: none"> • Purchasing of building material derived from recycled content, low-carbon emissions or certified by approved local certification bodies • Waste prevention, reduction and recycling
Environmentally Sustainable Management of Living Natural Resources and Land Use	<ul style="list-style-type: none"> • Preservation or restoration of natural landscapes including biodiversity conservation • Facility and infrastructure new build or upgrades that contribute to sustainability-related research programs including urban climate (vulnerability) studies

All designated green projects shall provide clear environmental benefits, which will be assessed and where feasible, quantified by the University. Any potential negative environmental impact of the selected projects will be carefully assessed and managed.

3.2 Process for Project Evaluation and Selection

Project evaluation and selection is a key process in ensuring that the projects financed by the GFTs meet the eligibility criteria set in the Green Finance Framework.

The University Campus Infrastructure (“UCI”) offices, together with the Office of Finance will work to ensure all projects are carefully evaluated and only projects which are aligned with its Sustainability vision and mission are included in the Green Project Register. The University may engage relevant subject experts in evaluating and selecting the Eligible Green Projects where necessary.

The selected Eligible Green Projects will be presented to the **Sustainability Steering Committee (“SSC”) and Space Planning, Allocation and Capital Evaluation Committee (“SPACE”) for endorsement and approval respectively** to be included in the Green Project Register under this Framework.

<p>1. Project Identification</p>	<ul style="list-style-type: none"> •UCI will identify Green projects and work with Finance on their eligibility to include such projects in the Green Project Register in line with this Framework. •Subject experts may be consulted as needed.
<p>2. Project Evaluation and Selection</p>	<ul style="list-style-type: none"> •The relevant UCI offices will evaluate and confirm the demonstration of clear and positive environmental impact of the selected projects with SSC. SSC Chair will have a veto right if the expected environmental or social benefits are not clear enough.
<p>3. Senior Management approvals *</p>	<ul style="list-style-type: none"> •The selected projects will be submitted to SSC and SPACE for endorsement and approval.
<p>4. Green Project Register</p>	<ul style="list-style-type: none"> •Approved projects will be added to the Green Project Register. •Finance will keep track of the Green Project Register and the Head of Finance will ensure that the allocation of the GFT proceeds is in line with overall green debt financing obtained.
<p>5. Annual Review</p>	<ul style="list-style-type: none"> •Finance will present to Deputy President of Admin and Finance and the Sustainability Steering Committee, the Green Project Register annually to ensure alignment with the NUS Green Finance Framework.

*Before arranging for any external financing, Office of Finance will obtain approvals of the total financing requirement from NUS Executive Committee and Board of Trustees in accordance with NUS’ internal policies.

3.3 Management of Proceeds

The net proceeds from the GFTs, or an amount equal to the net proceeds, will be allocated exclusively to the Eligible Green Projects. As long as there

are outstanding GFTs, the Treasury Team within Office of Finance will manage the Green Project Register through its internal system and periodically monitor the balance of the tracked proceeds.

Any unallocated amount may be invested in cash or cash equivalent instruments following NUS relevant investment policy until it is used to finance new Green Projects that meet the criteria as stated above. Any addition to the Green Project Register is to be made by following the process as described in section 3.2.

The University will not list eligible capital asset more than once in the allocation of the net proceeds.

3.4 Reporting

NUS is committed to transparency in its reporting on its GTFs.

For Bonds: NUS intends to publish a Green Bond report on an annual basis starting from the first anniversary of its inaugural Green Bond issuance until full allocation of the proceeds from the relevant issuance.

For Loans: NUS will provide a Green Loan report to its lender(s) upon request.

The Green Bond report or Green Loan report may include the following information:

a) Allocation Reporting

- Total amount of proceeds allocated per Eligible Green Project Category
- Key projects financed by Green Bonds or Green Loans, including their respective descriptions and allocated amounts
- Unallocated amount, if any

b) Impact Reporting

- Where relevant and feasible, NUS may report on the environmental impact of the Eligible Green Projects, which will correspond with the appropriate indicators for the projects being allocated as well as the generic campus sustainability indicators.

4. External Review

NUS has engaged Ernst & Young LLP to provide an external review service on this Green Finance Framework. The external assurance statement, as well as the Green Finance Framework will be made available on nus.edu.sg.

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ADDENDUM TO NUS GREEN FINANCE FRAMEWORK

This Addendum provides an update to the following areas in NUS Green Finance Framework dated 30 April 2020 (original version):

1. Corporate information
2. NUS latest sustainability roadmap
3. Process for project evaluation and selection

1. Corporate information

Following updates are made to section **1. Introduction** of the original version of NUS Green Finance Framework:

Reference	Original version	Updates
Paragraph 3	NUS offers a broad-based curriculum, multidisciplinary courses and cross-faculty enrichment. It not only offers 70 bachelor's degree programmes, there are also over 140 masters, PhD and graduate diploma programmes too. In addition, it also manages over 70 double, joint and concurrent degree programmes with top universities overseas. It has about 40,000 students from 100 countries who enrich its vibrant and diverse campus community.	NUS offers a broad-based curriculum, multidisciplinary courses and cross-faculty enrichment. It not only offers 60 bachelor's degree programmes, there are also over 170 masters, PhD and graduate diploma programmes too. In addition, it also manages over 120 double, joint and concurrent degree programmes with top universities overseas. It has more than 40,000 students from 100 countries who enrich its vibrant and diverse campus community.
Paragraph 4	NUS has 29 university-level research institutes and centres. It has also established many research partnerships and joint laboratories with various academic institutions, industry leaders and government agencies. [...]	NUS has 30 university-level research institutes and centres. It has also established many research partnerships and joint laboratories with various academic institutions, industry leaders and government agencies. [...]
Paragraph 5	NUS also actively promotes innovation and global entrepreneurship. Eleven NUS Overseas Colleges have been established in the United States, China, Sweden, Israel, Southeast Asia as well as in Singapore to nurture entrepreneurs by immersing the selected students in challenging entrepreneurial environments.	NUS also actively promotes innovation and global entrepreneurship. <u>NUS has established NUS Overseas Colleges programme in more than 15 cities around the world</u> to nurture entrepreneurs by immersing the selected students in challenging entrepreneurial environments.

2. NUS latest sustainability roadmap

Following updates are made to section **2. NUS' Commitment to Sustainability** of the original version of NUS Green Finance Framework:

Reference	Original version	Updates
Paragraph 2	Within the NUS Sustainability Strategic Plan 2017 – 2020 , NUS has identified the University's six key environmental impact areas with accompanying goals and actions namely carbon emissions, energy, water, waste management and recycling, built environment and green spaces (in buildings) . The plan is intended to evolve as NUS continues to innovate and implement new technological solutions as they become available. The NUS Sustainability Steering Committee chaired by Senior Vice President (Campus Infrastructure) oversees the overall strategy and implementation.	Within the <u>NUS Campus Sustainability Roadmap 2030</u> ¹ , NUS has identified the University's key environmental impact <u>programmes and initiatives</u> with accompanying goals and actions - namely <u>Carbon Neutral campus, Campus in a Tropical Rainforest, Zero Waste campus and Cool NUS</u> . The <u>Roadmap</u> is intended to evolve as NUS continues to innovate and implement new technological solutions as they become available. The University Sustainability and Climate Action Council chaired by NUS President oversees the overall strategy and implementation.

¹ <https://sustainability.nus.edu.sg/campus/campus-infrastructure/>

3. Process for project evaluation and selection

Following updates are made to section **3. Green Finance Framework**, sub-section **3.2 Process for Project Evaluation and Selection**, of the original version of NUS Green Finance Framework:

Reference	Original version	Updates
Paragraph 3	The selected Eligible Green Projects will be presented to the Sustainability Steering Committee ("SSC") and Space Planning, Allocation and Capital Evaluation Committee ("SPACE") for endorsement and approval respectively to be included in the Green Project Register under this Framework.	Projects need to be approved by the Space Planning, Allocation and Capital Evaluation Committee ("SPACE") or higher authorities² in accordance with NUS' internal guidelines on Capital Planning and Budgeting process , to be eligible for the project evaluation and selection process.
Vertical block list on the process flow	Please refer to the comparison table in page 5 of the document.	

² Higher authorities refer to NUS Campus Planning and Development Committee (CPDC) and NUS Board of Trustee.

Original version	Updates
<p>1. Project Identification</p> <ul style="list-style-type: none"> •UCI will identify Green projects and work with Finance on their eligibility to include such projects in the Green Project Register in line with this Framework. •Subject experts may be consulted as needed. 	<ul style="list-style-type: none"> • All projects have to be approved by SPACE or higher authorities* prior to being qualified for the Green project evaluation and selection process. • UCI and Finance will work together to identify eligible Green projects as set out in this Framework to be included in the Green Project Register. • Subject experts may be consulted as needed.
<p>2. Project Evaluation and Selection</p> <ul style="list-style-type: none"> •The relevant UCI offices will evaluate and confirm the demonstration of clear and positive environmental impact of the selected projects with SSC. SSC Chair will have a veto right if the expected environmental or social benefits are not clear enough. 	<ul style="list-style-type: none"> • UCI will assess the shortlisted projects for clear and positive environmental impact.
<p>3. Senior Management approvals</p> <ul style="list-style-type: none"> •The selected projects will be submitted to SSC and SPACE for endorsement and approval. 	<p>[Blank]</p>
<p>4. Green Project Register</p> <ul style="list-style-type: none"> •Approved projects will be added to the Green Project Register. •Finance will keep track of the Green Project Register and the Head of Finance will ensure that the allocation of the GFT proceeds is in line with overall green debt financing obtained. 	<ul style="list-style-type: none"> • Selected Green projects will be added to the Green Project Register. • Finance will maintain the Green Project Register to ensure allocation of the GFT proceeds is in line with overall green debt financing obtained.
<p>5. Annual Review</p> <ul style="list-style-type: none"> •Finance will present to Deputy President of Admin and Finance and the Sustainability Steering Committee, the Green Project Register annually to ensure alignment with the NUS Green Finance Framework. 	<ul style="list-style-type: none"> • UCI and Finance will prepare the Green Bond/Loan Report and the Green Project Register on an annual basis until full allocation of the proceeds to ensure alignment with the NUS Green Finance Framework • Approvals from the Chief Financial Officer and Vice President (Campus Infrastructure) are required.