



SUSTAINABILITY ANNUAL REPORT

2018-2019



Sustainability
CARLETON UNIVERSITY



Carleton
UNIVERSITY

MILESTONES

2004

Carleton University signed on to the Talloires Declaration, which defined 10 action items that Carleton and the other signatories around the globe agreed to follow. As of March 2019, there were 507 signatories worldwide.

2014

Carleton University launches its first comprehensive Sustainability Strategic Plan.

2015

Launch of the Green Revolving Fund, to engage and provide funding for community ideas.

Joined AASHE (Association for the Advancement of Sustainability in Higher Education).

2016

Designated as a Fair Trade Campus.

Campus Master Plan published.

2017

Achieved a Silver rating in STARS (Sustainability Tracking Assessment & Rating System), a university rating system.

2018

Carleton University Energy Master Plan published.

Food courts on campus (Residence and University Centre) designated zero waste.

2019

Carleton joins Carbon 613, an Ottawa network of organizations committed to reducing Greenhouse Gas Emissions.

35% reduction in Carbon Emission Intensity from 2009 levels.

Carleton ranks 33rd out of 719 universities in the UI Green Metric Global Sustainability rankings.

QUICK FACTS



35%

REDUCTION IN EMISSIONS
INTENSITY (SINCE 2009)



56%

OVERALL WASTE
DIVERSION RATE



21%

REDUCTION IN ENERGY
INTENSITY (SINCE 2009)



11

CERTIFIED GREEN BUILDINGS
(PRE-DESIGN AND DESIGN)



71%

OF TRIPS BY SUSTAINABLE
MODES OF TRANSPORT



2nd

RANKED IN CANADA, 33/712 OVERALL
IN UI GREEN METRIC UNIVERSITY
SUSTAINABILITY RANKINGS)



ZERO

WASTE FOOD COURTS,
UNIVERSITY CENTRE AND
THE CAF (RESIDENCE
CAFETERIA)



24%

PURCHASES MADE THROUGH
DINING SERVICES WHICH
ARE COMPRISED OF LOCAL,
ECOLOGICAL AND HUMANE FOODS

ENERGY AND CLIMATE CHANGE

QUICK FACTS

- 35%** Absolute GHG reduction (tonnes CO₂) since 2005
- 613** Carleton joins Carbon 613.
- 5** 2,600,000 kWh savings from 5 retrofit buildings.

Carleton University is continuing to implement actions and programs within its Energy Master Plan. The plan provides key strategic direction for achieving reductions in energy usage and emissions reduction; utility and carbon cost savings; and campus engagement towards the university's plan and individual actions. Carleton has also set aggressive targets towards carbon reduction with a 50% reduction by 2030 and zero carbon/neutral by 2050.

KEY ACHIEVEMENTS

ENERGY RETROFITS

Large scale energy retrofits have been completed in Athletics, Robertson Hall, Loeb, Mackenzie, Minto CASE, Dunton Tower and Maintenance Building. This has seen targeted energy reduction measures including building assessment and energy audits, LED re-lamping, replacing control systems, retrofitting plumbing fixtures with high efficiency, IT computer sleep software and improvements to building exteriors.

To date, within the five initial buildings included as part of the first phase of energy retrofit programs, there have been annual cost savings of \$660,342 and GHG reductions of 1281 equivalent CO₂ tons. A number of other buildings have been targeted for future implementation and retrofits.

Further promotion and engagement to individual departments to encourage energy conservation has also been further developed. This is included as part of the Green Workplace checklist. Targeted promotion in residence has seen the installation of Energy Display Screens to provide real-time data regarding energy use to all residents. In addition, the development of a sustainable living floor has ensured wider promotion of best practices.



SWITCH TO LED LIGHTING

In 2018, over 1,200 exterior lighting fixtures including parking lots, roadways, pathways and tunnels, were replaced with more energy efficient LEDs. This project will provide annual savings of 652,000 kWh. With funding coming in part from the Green Revolving Fund, tunnel lighting was also included. The overall LED lighting project will save the equivalent CO₂ emissions from 93 homes energy for one year and annual cost savings of an estimated \$115,000.

DID YOU KNOW?

Carleton has 259 Energy meters to monitor performance

GREEN BUILDINGS AND WATER

QUICK FACTS

- 11** Buildings on campus certified by Green Globes.
- 1st** Richcraft Hall recognized as best green venue.
- 19%** Reduction in water use since 2013-2014.

The quality and sustainability of our buildings are interdependent and ensuring a greener building, both provides for reduced costs and emissions but also serves for a better place to work and teach, and ultimately a better place to learn and to conduct research. The Campus Master Plan and building design standards demonstrate Carleton University's commitment for a better campus for all.

KEY ACHIEVEMENTS

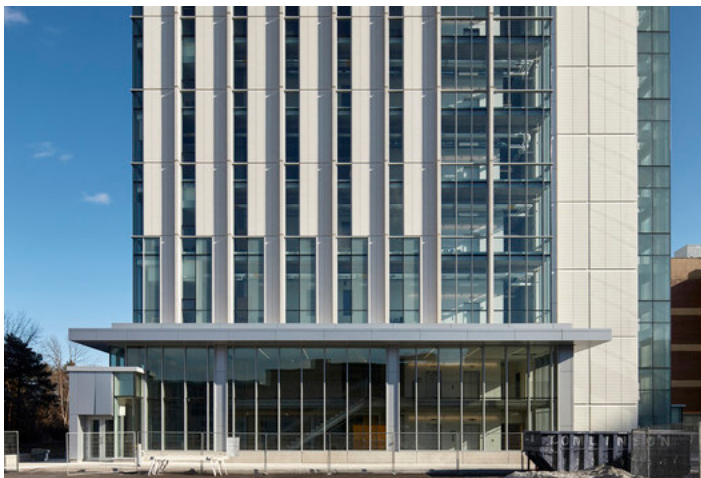
GREEN GLOBES

Carleton continues to utilize the Green Globe standard for all new buildings and major renovations on campus. This standard, similar to LEED, allows for the review of buildings at design stage, during construction and post construction. This staged approach allows for continuous review and adjustment to sustainability needs and standards, and ongoing monitoring to meet requirements. In addition, a full-day sustainability design charrette is also completed, encouraging innovation and best practice.

WATER RETROFIT

Water management and consumption is included in the broader Energy Master Plan and addresses both the historic usage and expected future use. The plan includes conservation opportunities.

Water management is also included within the recently revised building specifications for all new builds and renovations with the inclusion of ultra-low fixtures. Recent programs towards water reduction have seen retrofits of plumbing fixtures.



LIVING LAB

Working alongside colleagues in Facilities Management and Planning, Carleton researcher Liam O'Brien has been looking at office environment and comfort levels, and energy savings. A project within the new Health Sciences Building, compared differing offices with changes to controls, lighting and automated blinds. The intent is to ensure research such as this, conducted on the Carleton campus, informs future buildings and renovations for energy savings and improved comfort.

DID YOU KNOW?

All new buildings are reviewed for sustainability at design and post construction

WASTE AND RECYCLING

QUICK FACTS

- 5,000kg** Amount of household items and clothing donated to the Canadian Diabetes Association at Residence Move Out.
- 54%** Waste Diversion Rate.
- 136** Tonnes of Organic Waste collected in 2018.

Carleton set a target for waste diverted from landfill of 60% in 2014 and continues to work towards this. Meeting and exceeding this target is a priority area and improving campus recycling infrastructure is a major focus for changing how Carleton disposes of waste. In addition, campus-wide engagement programs and improved signage, as well as identifying problem areas are seen as key next steps.

KEY ACHIEVEMENTS

ORGANIC WASTE

Last year the university collected 136 tonnes of organic waste and recognize the importance that the campus community places on capturing this stream. The addition of collection points for liquid and organic waste in major food courts (Loeb, University Centre, Residence cafeteria and the Oasis) have provided greater opportunity for disposal, this in addition to existing kitchen programs.

E-WASTE COLLECTION

Carleton partnered with Electrobac in 2017 to set up three personal E-Waste collection bins. These are located in Athletics, Residence and the University Centre. In 2018, the community recycled over 2,633 devices. This is the equivalent positive impact on the environment as 3,317 litres of oil saved.

In addition to the E-Waste bins for personal items, IT recycled over 20,000kg of Carleton E-Waste from redundant computers and printers.

WASTE CONTAMINATION

In 2018 a program to identify which locations have the most contamination and identifying problem areas for collection resulted in new waste collection pick-ups and bins allocation.



ZERO WASTE

The Food Court, located in the University Centre, is part of a continual improvement program to increase waste diversion in all operations. This has seen the introduction of new recycling stations in dining locations, additional staff training towards sustainability, and the development of a Recycling Ambassador program.

DID YOU KNOW?

Carleton has a bulb crusher on campus to recycle all spent light bulbs

PROCUREMENT AND DINING

QUICK FACTS

- 3 Stars** SPE Certification for commitment to nutrition, sustainability and well-being.
- 24%** Purchases made through Dining Services which are Local, Ecological and Humane foods.
- Gold** Awarded in the category of waste management from the National Association of College and University Food Services.



BAN PLASTIC STRAWS

Carleton University has launched the Say No Thanks to Straws campaign, eliminating plastic straws from its non-franchised food areas on campus. Paper straws are available on request. The campaign dovetails with other university initiatives around packaging, which included a full audit and review of all packaging in the University Centre food court to enable and encourage better recycling practices.

Carleton has been working with campus partners to ensure that sustainable procurement principles are embedded into all operations. This has seen developments such as Carleton becoming a Fairtrade Campus in 2017, and gaining recertification in 2018, and increasing our use of sustainable and local purchasing such as Cage Free Eggs and Marine Stewardship Council certified fish products.

KEY ACHIEVEMENTS

REDUCING OIL USE

Fryer oil is filtered to help reduce waste and improve taste – usage has been reduced by 30% saving approximately 40,00L in 2018. The remainder is recycled into bio-diesel fuel, which is used to power landscape vehicles off campus.

LOCAL FOOD

Carleton supports local farmers and producers by buying local foods wherever possible. Students are engaged towards this program with visible Locally Grown icons on menu boards in the caf which identifies items with more than 50% local ingredients.

Carleton also established a local food project to allow direct orders from farmers and co-ops in the region. Funded by a grant from the Greenbelt Fund, the pilot allows, via an online portal, to see what is available in the field and ready to be picked.

MARKETPLACE

In 2018 Carleton launched an online Marketplace to enable staff and faculty to buy and sell goods online within the Carleton community. The idea was to both provide a safe platform for selling goods, and to encourage re-use and diversion from landfill. Items can also be offered for free. Since its launch over 680 items have been potentially diverted from landfill.

Marketplace operates in addition to our university surplus list, which encourages reuse of furniture electronic items and other equipment within departments.

TRANSPORTATION

QUICK FACTS

- 71%** Trips coming to campus made by sustainable transportation
- 600** Number of people engaged in the new Transportation Strategy.
- 200+** Number of users of bike share program in 2018.



BIKE SHARE

Carleton has partnered with VeloGo, the city-wide bike share program to offer bike sharing on campus. The expanded program saw additional hub (drop off and pick up locations) on the campus, as well as the ability to drop bikes at a convenient and safe location. Over 200 members of the community, including visitors to the campus, used this facility to get around the campus and explore our beautiful city.

Carleton, set outside the downtown Ottawa core, is a destination campus for those visiting either from the city or from communities outside our region. With an O-Train stop in the centre of the campus, and good bus links over 70% of visitors travel to the campus by either public transport or active transportation. Carleton is focusing on reducing single occupancy travel and encouraging more sustainable travel modes.

KEY ACHIEVEMENTS

BIKE 2 WORK MONTH

Bike 2 Work month in May encourages the Carleton community to think about changing their habits and give cycling a go. The program includes a Carleton team challenge where riders log their mileage to win prizes, a workshop on urban cycling providing participants with tips on biking to work, and free bike tune-ups.

CAR POOLING

Carleton has partnered with the City of Ottawa, Travel Wise program to offer a car pooling website to enable staff and faculty to match their ride. Although previously available, updates to incentives such as sharing parking passes and ride home programs have been extended.

TUNNEL SIGNAGE

A pilot program was initiated in 2018 which saw new wayfinding improvements for those walking in the tunnels. A Carleton underground map was created with new coloured routes and better signage was initiated between University Centre and MacOdrum Library. Encouraging a safer and pedestrian friendly campus is a key priority.

TRANSPORTATION PLANNING

A consultation program towards a new sustainability strategy began in fall 2018 and saw over 600 respondents to an online survey. Additional events created awareness towards a new strategy.

CAMPUS ENGAGEMENT

QUICK FACTS

- 1** Million Green Fund, with up to three projects funded per year.
- 52** Bags of garbage collected at clean up events in 2018.
- 700+** Twitter followers.
- 33rd** UI Green Metric World ranking.



CLEAN UP THE CAMPUS

The Carleton community once again came together to support the clean up the campus initiative. Each spring and fall students, staff and faculty are invited to clean up our littered public and natural spaces. The now annual event attracts over 100 community members, who are rewarded with free coffee and lunch. In 2018, more than 50 bags of garbage were collected.

At Carleton, we continue to provide a number of engagement opportunities for our community to build greater awareness and understanding of our sustainability impact and how we can all make a difference. Our programs encourage energy conservation, sustainable procurement, active transportation and ways to submit ideas on sustainable and environmental best practice.

KEY ACHIEVEMENTS

SUSTAINABLE OFFICE PROGRAM

The CU Sustainable Office Program, launched as a pilot in 2019, will see offices complete a checklist of actions and set themselves goals for reducing their impact and improving sustainable behaviours. This will include looking at purchases made, how the team travels and plug-load energy use.

GREEN REVOLVING FUND

Now it is fifth year, the Green Revolving Fund provided funding towards LED lighting in the tunnels as part of a student submission. In 2019, an expansion of the fund saw the creation of an engagement fund to allow for student clubs, offices or departments to submit a project without the need for payback.

MY (SUSTAINABILITY) IDEAS

The Carleton site ideas@carleton was formally adopted onto the Intranet and is a platform for staff and faculty to submit an idea to the betterment of Carleton. A Sustainability tab was created to allow for the community to submit an idea around sustainability. All ideas that reach a level of voting are reviewed and followed up with.

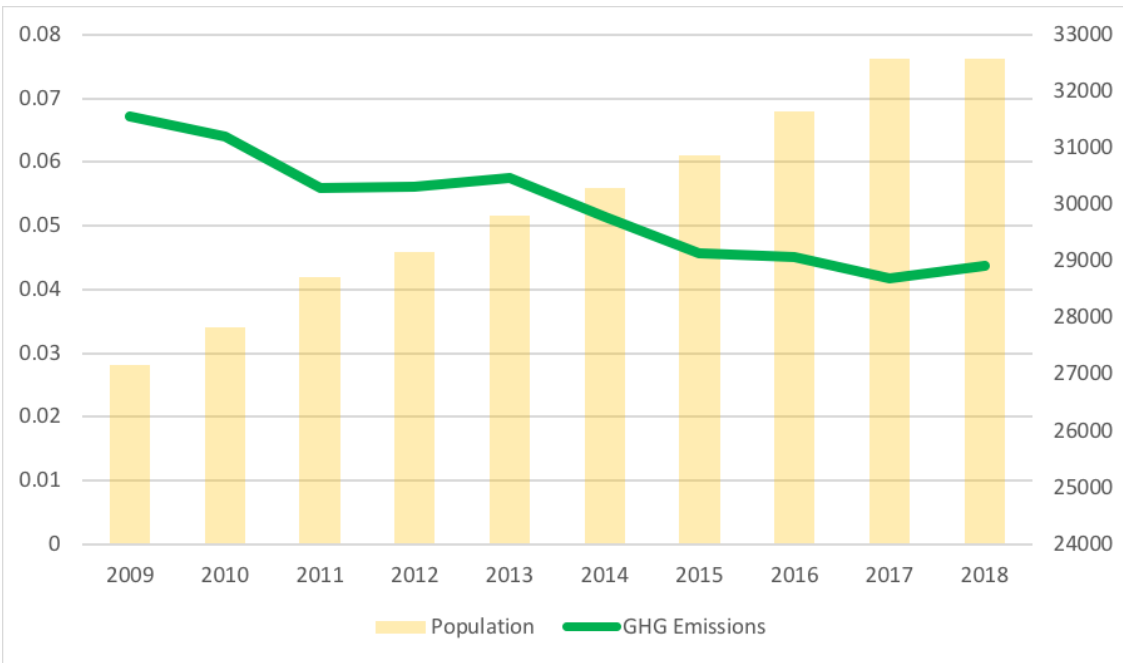
EARTH HOUR

The campus community every year participates in Earth Hour through a number of events. Staff are encouraged to turn off lighting and in residence students take part in dine in the dark and acoustic night. In 2019, energy use fell by 3% for the period.

OUR NUMBERS

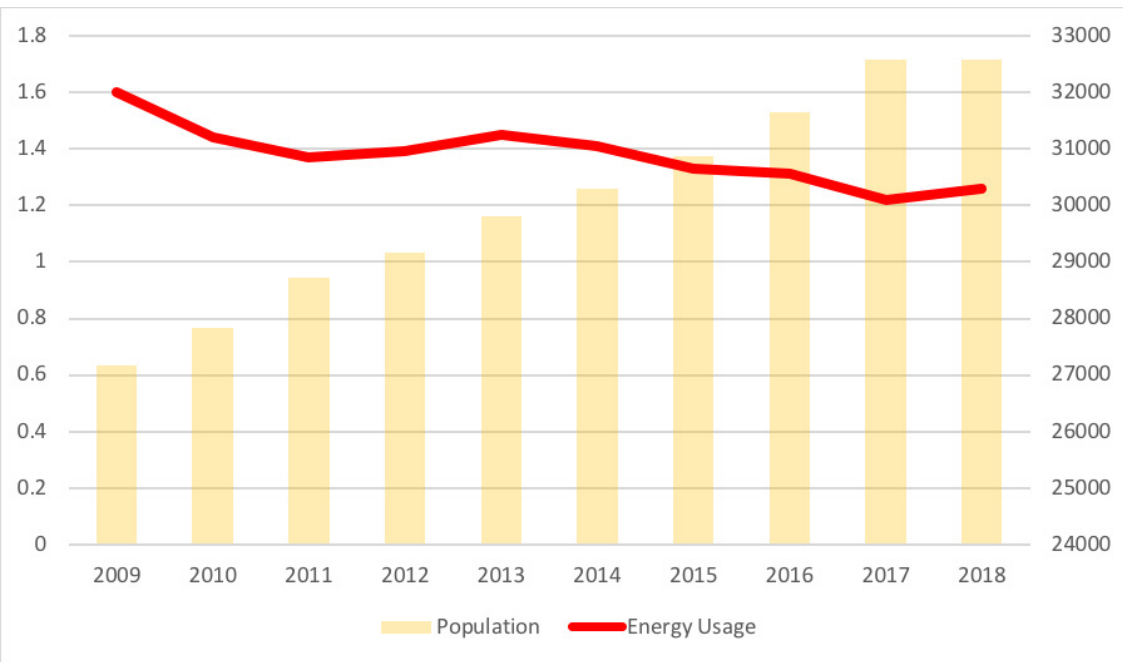
GHG EMISSIONS

Carleton's GHG Emission Intensity (tonnes CO₂/m²) fell by 35% from the baseline year of 2009. At the same time, the campus population increased by 20%.



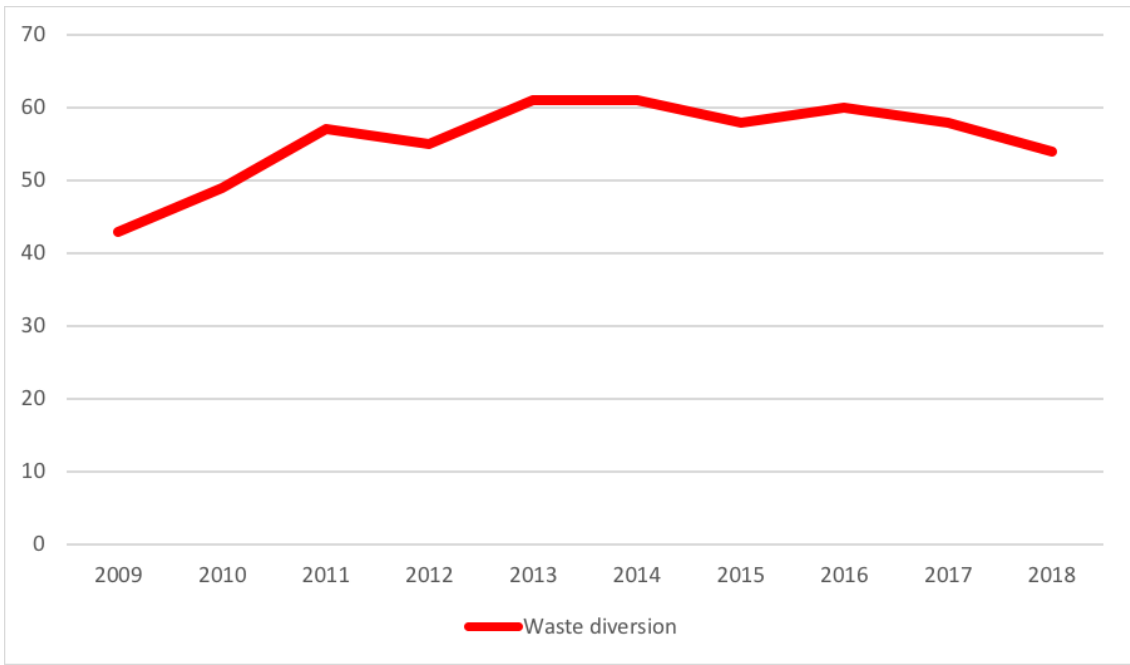
ENERGY USAGE

Carleton's Energy Usage Intensity (GJ/m²) fell by 21% from the baseline year of 2009.



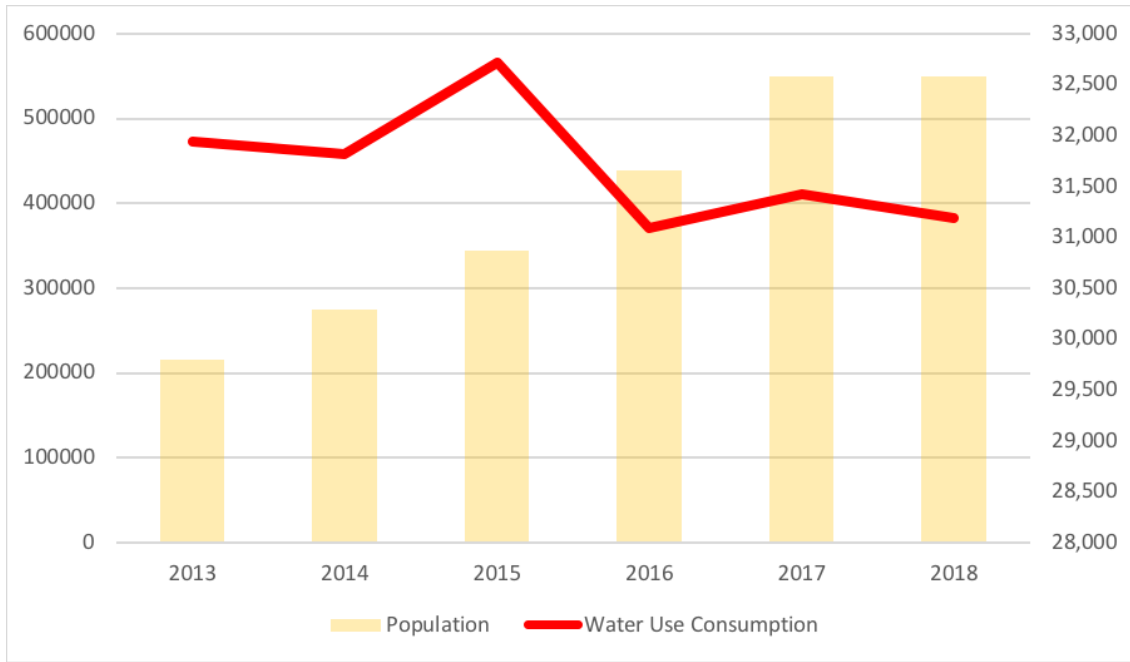
WASTE AND RECYCLING

Last year, Carleton diverted 54% of overall waste from landfill. The reduction in 2018 was in part due to reduced construction waste and increased contamination thresholds being introduced by our waste collection partner.



WATER USAGE

Carleton's Water Usage consumption (m³) fell by 21% from the baseline year of 2009.



TO LEARN MORE ABOUT SUSTAINABILITY
PROJECTS AND INITIATIVES FEATURED IN
THIS REPORT OR TO CONNECT WITH THE
SUSTAINABILITY TEAM VISIT:

WEB: CARLETON.CA/SUSTAINABILITY

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