

# Green Bonds Market Summary

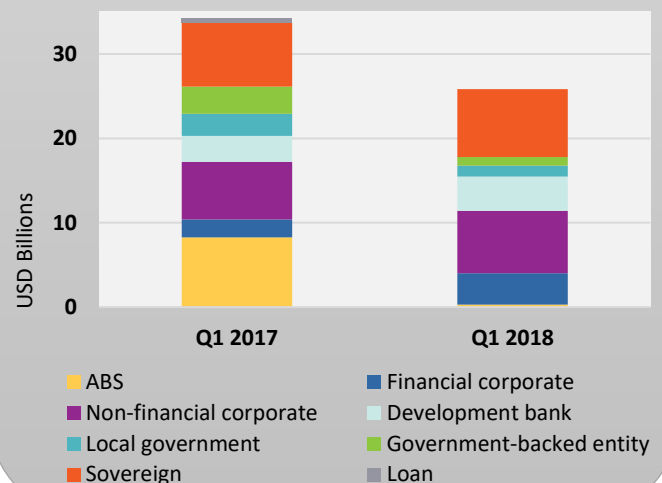
Q1 2018

April 2018

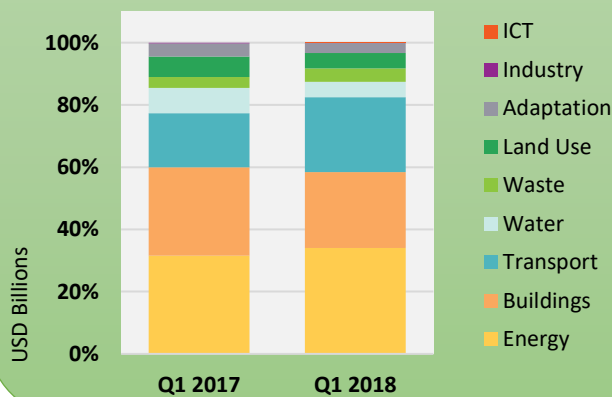
## The quarter at a glance

- USD25.8bn of issuance\*
- 71 green bond issues\* with 11 from Sweden, 10 from China and 9 from the USA
- 52 issuers\* from 21 countries
- 25 market entrants from 12 countries bring the total number of green bond issuers to 440
- 2 new countries – Iceland and Indonesia – bring the number of “green bond” countries to 47
- 2 new issuers – Indonesia and Belgium – bring the number of sovereign green bond issuers to 6
- March issuance was strong with 27 deals in 10 countries and 17 new issuers (7 from China)

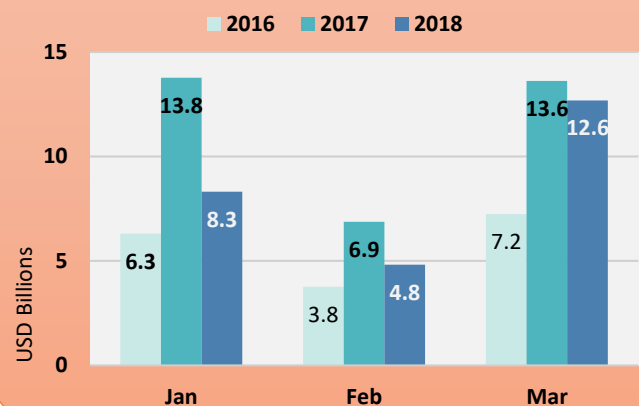
Quarterly volume\* by issuer type



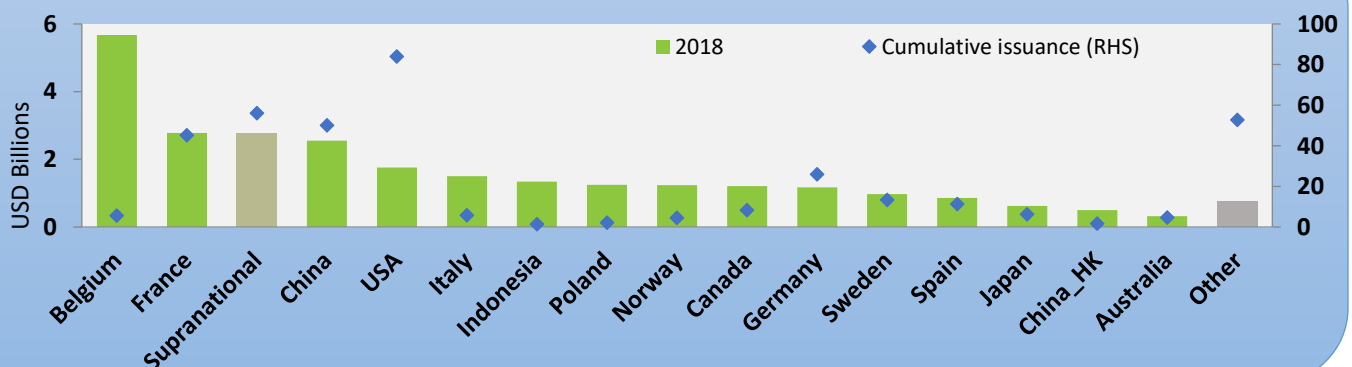
Quarterly use of proceeds\*



Q1 monthly issuance volume\*



Q1 2018 green bond issuance: top 15 countries\*



\* All charts and analysis are based on preliminary figures for Q1 2018 issuance volume and number of deals, pending the inclusion of Q1 Fannie Mae Green MBS deals and six deals still under assessment for inclusion in the CBI green bond database (see p.4 for more details on the database inclusion methodology).

## Q1 2018 green bond issuance highlights

**Iceland** is the latest country to join the green bond market. National power company [Landsvirkjun](#) became the first Icelandic issuer in March with a USD200m private placement financing hydro and geothermal projects.

**Indonesia** made its debut in the green bond market in February with [Tropical Landscape's Finance Facility's](#) USD95m sustainability bond financing a sustainable rubber plantation on heavily degraded land. Shortly thereafter, the [Republic of Indonesia](#) came to market with a SGD1.65bn (USD1.25bn) green sukuk, becoming Asia's first green sovereign issuer. With just two green bonds issued, Indonesia has already climbed up significantly in global rankings and has surpassed Malaysia for green sukuk issuance volume.

**Belgium** has also boosted its issuance in this quarter with its EUR4.5bn (USD5.5bn) [Green OLO](#), the second largest green sovereign to date after France's Green OAT. At the end of March logistics company WDP also issued a green bond of EUR100m (USD123m) which will finance onsite renewable energy generation, green buildings, energy and water efficiency improvements. Until this quarter, the only green bond by a Belgian issuer was the EUR45 (USD50m) bond issued by wastewater company Aquafin in 2015.

**Developed markets** green bond issuance was USD17.4bn. A third of that volume was contributed by the two Belgian issuers and 74% came from European issuers.

## Increasing issuance from emerging markets

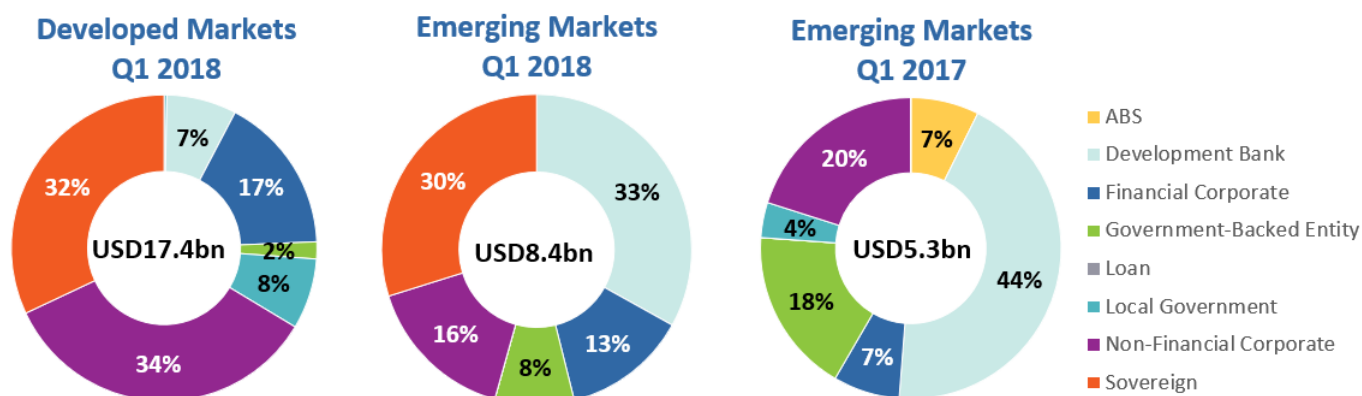
At USD5.6bn, emerging markets green bonds represent 22% of Q1 issuance volume with 92% contributed by issuers from China, Indonesia and Poland, and the rest by issuers from Iceland, Malaysia and South Africa.

Given that the proceeds raised by supra-nationals go into emerging markets' projects, we included their USD2.8bn worth of Q1 deals in the overall emerging market volume. This brings EM contributions to 32% of global Q1 issuance. This compares to 15% in Q1 2017!

Development banks are still the most prominent issuer in emerging markets, but they accounted for a smaller portion of issuance compared to Q1 2017: 33% vs 44%. Another key difference between 2017 and 2018 is the contribution from sovereign issues.

## Sovereigns play a central role

Sovereign issuance accounted for around a third of issuance in both developed and emerging markets. The trend is set to continue: Q2 has started with a EUR1.1bn tap of France's sovereign green bond. During Q1, Hong Kong announced plans for a HKD100bn (USD12.8bn) sovereign green bond program and Belgium announced it plans to raise USD10bn through green bonds by 2022.

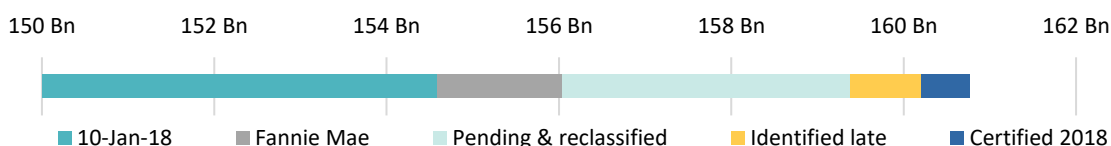


## 2017 green bond issue volume revised to USD160.8bn

We are revising our 2017 green bond issuance figure upward from USD155.5bn to USD160.8bn. There are a number of reasons for this adjustment:

- Fannie Mae posted its full Q4 2017 Green MBS issue figures after our Green Bond Highlights 2017 report was published. The related adjustment is USD1.5bn;
- After further review and consideration we reclassified 15 bonds totalling USD3.3bn. These were previously treated as pending, unlabelled or excluded;
- 11 bonds totalling USD0.8bn were identified after the report date and a USD0.6bn green loan was included when it was Certified in 2018.

### Reconciliation of initial and revised 2017 issuance figure



## External reviews on the rise

Almost 80% of issuance in Q1 2018 benefits from a second party opinion (SPO), and 87% from at least one external review: SPO, assurance or green bond rating. Admittedly, it is early in the year, but this is a positive sign for transparency and market integrity.

Sustainalytics provided SPOs on 36% of Q1 deals by issuance volume; Vigeo Eiris on 19% and CICERO on 16%. Deloitte and EY provided almost all assurance reports. Moody's, S&P Global Ratings and RAM (Malaysia) provided green bond ratings.

External reviews	2014	2015	2016	2017	Q1 2018	Overall
At least one review	70.7%	63.8%	76.2%	76.0%	87.3%	74.0%
SPO	68.5%	56.8%	44.4%	52.2%	78.9%	54.8%
Assurance	1.0%	3.0%	22.5%	8.3%	4.7%	9.5%
Rating			11.4%	7.6%	3.8%	6.2%
No review	29.3%	36.2%	23.8%	24.0%	12.7%	26.2%

## Certification under the Climate Bonds Standard across asset sectors

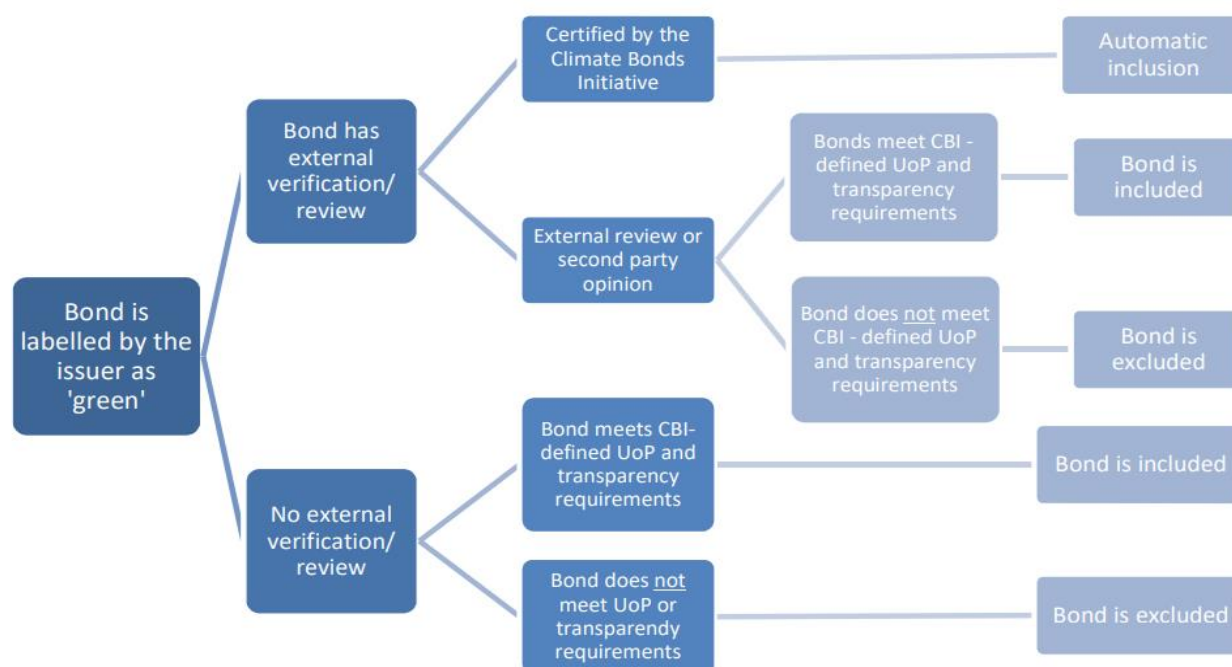
CBI has published nine sector criteria under the Climate Bonds Standard, and a tenth (Forestry) is in the final stages of public consultation. Certified bonds and loans align to nine of them. The largest portion of proceeds from

Certified Climate Bonds and Loans is allocated to transport (40%), followed by wind (21%) and solar (11%). There have been Certified loans under three of the renewable energy criteria and two of the buildings criteria.

Sector Criteria	Certified Bond issuers	Certified Loans	Country of risk	Amount USDbn*
<b>Solar</b>	Belectric, NAB, ANZ, ABN Amro, Axis Bank, Hero Future Energy, Flexigroup, Deutsche Kredit Bank, Treasury Corp. Victoria, NTPC, MASEN, Monash University, ReNew Power, Queensland Treasury Corp., IREDA, Rural Electrification Corp., Azure Power Energy, ICBC, Power Finance Corp., Westpac, Manulife, Federal Government of Nigeria, New York SERDA, Essel Urja	MEP Werke, Quadran Energies Libres	UK, Australia, Netherlands, India, Germany, Morocco, China, Canada, Nigeria, USA	3.9
<b>Wind</b>	NAB, ANZ, China Three Gorges, Westpac, Axis Bank, Hero Future Energy, ReNew Power, Nacional Financiera, Nordex, Deutsche Kredit Bank, Treasury Corp. Victoria, NTPC, IREDA, CPFL Energias Renovaveis, Commonwealth Bank of Australia, Rural Electrification Corp., ICBC, Rio Energy, Eólica Serra das Vacas (PEC Energia), Enel Green Power, Power Finance Corp., Omega Energia, Westpac, Manulife, China Development Bank, Bank of China - Paris Branch	Quadran Energies Libres	Australia, China, India, Mexico, Germany, Brazil, Italy, Canada, France	7.0
<b>Geothermal</b>	AP Renewables, Contact Energy	Contact Energy	Philippines, New Zealand	1.6
<b>Low Carbon Transport</b>	Axis Bank, New York MTA, Treasury Corp. Victoria, SNCF Réseau, Alpha Trains, Queensland Treasury Corp., Commonwealth Bank of Australia, City of Cape Town, ICBC, India Rail Finance Corp., BART, City and County of San Francisco, Los Angeles County MTA, China Development Bank, Bank of China - Paris Branch		India, USA, Australia, France, Luxembourg, South Africa, China	13.7
<b>Water</b>	SF Water, Treasury Corporation Victoria, Queensland Treasury Corporation, City of Cape Town, China Development Bank		USA, Australia, South Africa, China	1.7
<b>Forestry</b>	Federal Government of Nigeria		Nigeria	0.006
<b>Low Carbon Buildings</b>				
<b>Commercial</b>	ANZ, Westpac, Axis Bank, ABN Amro, Monash University, Commonwealth Bank of Australia, Investa, LBBW	Ivanhoé Cambridge and Natixis Assurances (DUO)	Australia, Netherlands, India, Germany, France	2.6
<b>Residential</b>	ABN Amro, New York State Housing Finance, Obvion (Green Storm), Barclays Plc, National RMBS Trust 2018-1 (NAB)		Netherlands, USA, Australia, UK	2.9
<b>Upgrades</b>	CDL Properties Ltd, Treasury Corporation Victoria, Monash University, LBBW	OVG	Singapore, Australia, Germany, Netherlands	0.4

\* Methodology: For each certified bond, the amount issued is equally divided between eligible sector criteria, unless a specific allocation of proceeds is identified. A repack deal from Renew Power (USD475m) is also included in the calculations.

## Climate Bonds green bond database inclusion assessment explained



The Climate Bonds Initiative screens labelled green bonds for inclusion in the CBI green bond database.

### Step 1: Identify the green bond

The issuer of a green bond must declare that the bond is intended to be environmentally beneficial through labelling the bond. The most commonly used label is 'green', but other labels such as climate-awareness, climate, environmental, solar, SDG and sustainability are also eligible. The label should appear in a public document such as a press release, a green bond framework or review, the bond prospectus or by obtaining a green bond assessment, green evaluation or other green bond rating.

While we commonly refer to debt instruments included in the CBI green bond database as "bonds", any debt format is acceptable, including sukuk, Schuldschein, loans, securitisations deals or tranches. As long as it's green!

### Step 2: Screen green projects or assets for adherence to the Climate Bonds Taxonomy

Each bond is reviewed based on the green credentials of use of proceeds. This may be earmarked proceeds for asset-linked, senior unsecured or secured bonds, projects

funded by a project bond, or assets backing an ABS or secured debt. The key is that the asset is green.

At issuance, the issuer must declare the eligible asset / project categories. Most issuers specifically link their deal and green bond framework to the ICMA Green Bond Principles and obtain an external review to confirm alignment to the GBP. Going forward and alternative will the LMA Green Loan Principles in the case of loans. However, compliance with GBP or GLP does not automatically mean that the categories are aligned to Climate Bonds database inclusion criteria as the principles are indicative in respect of eligible assets, whereas CBI excludes certain assets such as fossil fuels and nuclear.

### Step 3: Evaluate the use of proceeds

We only include bonds with at least 95% proceeds dedicated to green projects that are aligned with the Climate Bonds taxonomy. If more than 5% of the proceeds are used for 'general corporate purposes', working capital, social projects or projects that do not align to the Climate Bonds Taxonomy, the bond will not be eligible for inclusion. Importantly, lack of sufficient information to determine this also results in exclusion.

## Q1 exclusion overview

Climate Bonds has started to publish the reason for exclusion of bonds from the CBI database in the [market blogs](#). The table below summarises the exclusion

categories, examples of types of proceeds allocation categories, which may lead to exclusion, and the total amount of Q1 2018 bonds, which have been excluded.

Exclusion category	Proceed allocation examples	Amount USD
Over 5% allocated to social projects	Education, healthcare, affordable housing, social inclusion projects	8.6bn
Over 5% allocated to funding operations	Operating cost, working capital, general corporate purposes	7.0bn
Not aligned with Climate Bonds Taxonomy	Clean coal, fossil fuel technologies, landfill without energy capture	0.3bn
Insufficient information	No disclosure; no/limited information on energy efficiency projects	0.2bn

## Q1 Green bond underwriter league table

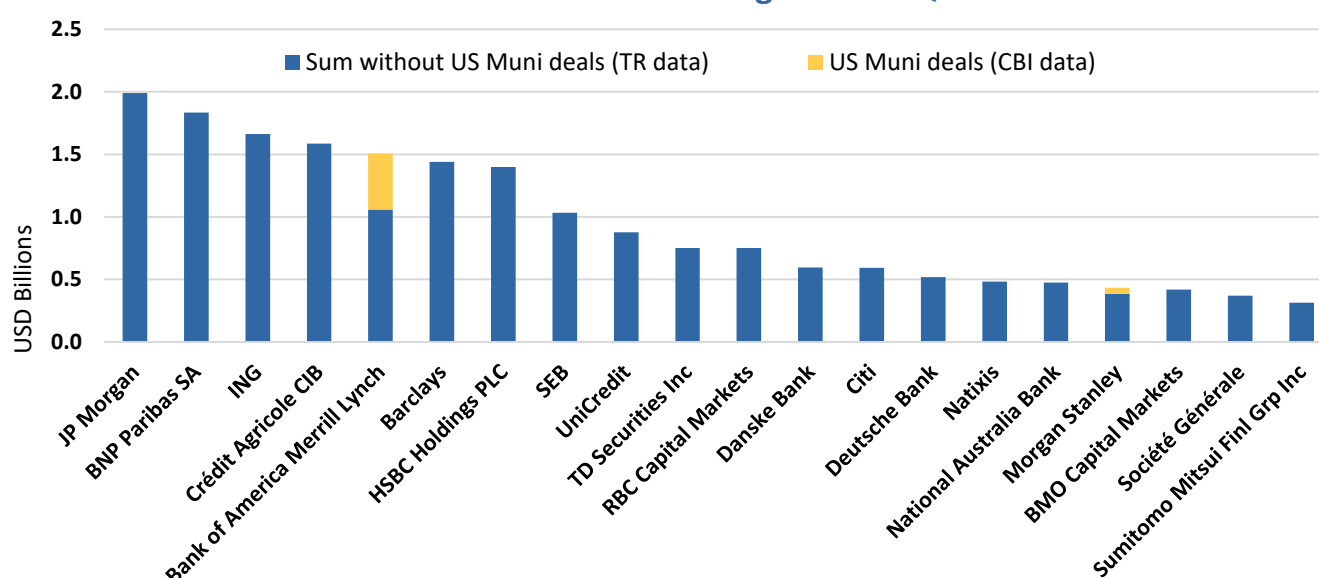
**JP Morgan** has returned to the top of the quarterly green bond underwriters league table with more than 50% of the underwritten volume coming from Belgium's sovereign green bond. It last topped the league tables in Q3 2015.

**BNP Paribas** has maintained its position as one of the leading green bond underwriters with USD1.8bn of

underwritten deals, jumping to 2<sup>nd</sup> place in Q1 2018, up from 4<sup>th</sup> in Q4 last year. Dutch Bank **ING** ranked 3<sup>rd</sup>, marking its way to the top 5 for the first time.

League table data was put together in collaboration between Climate Bonds and Thomson Reuters.

### Green Bond Underwriters League Table Q1 2018



### League tables: Methodology and data

Since Q3 2016, the underwriters league tables are collated using data from Thomson Reuters except for US municipal bonds which are calculated by the Climate Bonds Initiative. As such, ranking volumes differ from Thomson Reuters tables. Volumes may differ from other league tables as they include ABS deals and US municipal bonds and exclude bonds which have less than 95% of proceeds going to environmental assets/projects or aren't within the [Climate Bonds Taxonomy](#).

Thomson Reuters data methodology:

- Primary Issuance only
- Underwritten transactions only
- Thomson Reuters data excludes tax exempt US Municipal bonds
- The global table includes transactions that mature at least 360 days after settlement
- Transactions that mature or are callable/puttable less than 360 days after settlement are excluded

- Self-funded straight debt transactions are excluded (excluding mortgage and asset securitizations) unless two or more managers/ underwriters unrelated to the issuer are present.
- Transactions with an issue size of less than USD 1m (equivalent) are included; sole led MTN take downs with a minimum size of USD50m for core currencies are included, USD10m for non-core
- Deals must be received within five business days of pricing to be eligible
- For a transaction to be green league table eligible, deals must have 100% of proceeds formally earmarked for green projects
- Issuances where there is a mixed use of proceeds designated across different projects, are not eligible: e.g. ESG bonds that combine social and green projects
- Securitisation deals and private placement will be included provided they meet the standard criteria

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