Madaster Release notes

2023

Made for
Madaster users

Date
16 February 2023

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1 Releases

Release	Build number	Release date
2023.1	19298	16 February 2023

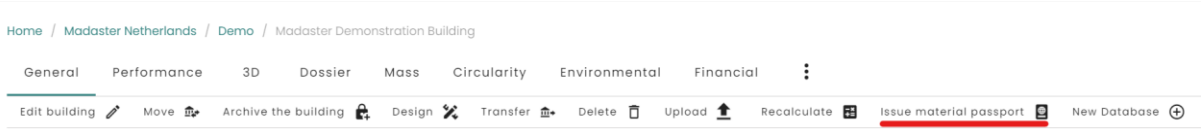
2 New or changed functionalities

2.1 New material passport options and design

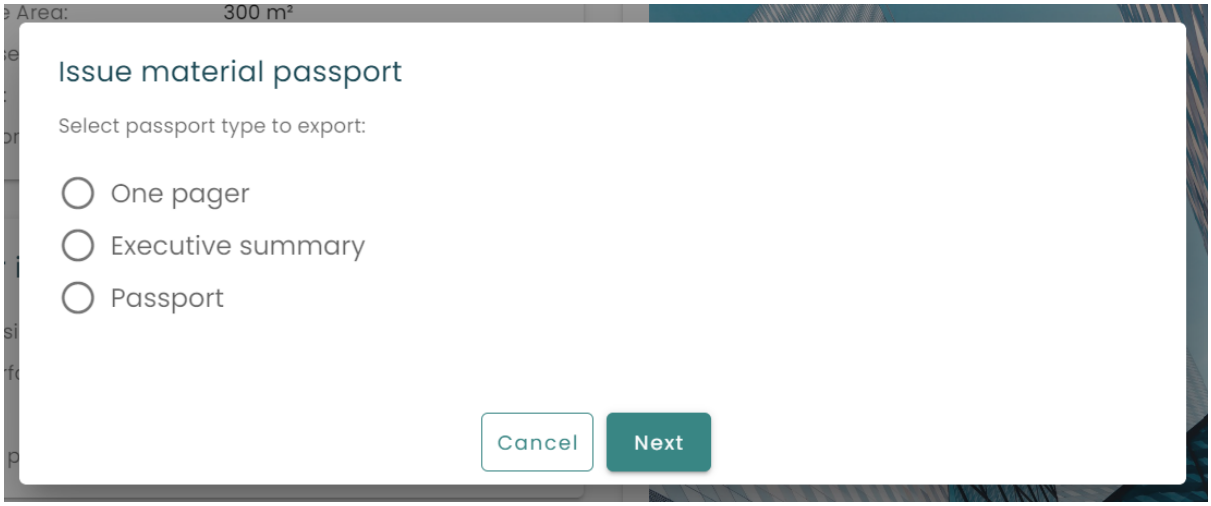
In this release, the material passports have been redesigned. They have a different look and feel as well as new options. There are different types of passports now: the one-pager, an executive summary and a (full) passport that can include a technical annex with the base data in an excel file. Apart from that it is now possible to preset what data can be included in the passport, such as the Madaster Circularity Index or any of the environmental KPI's.

2.1.1 Issuing and generating a passport

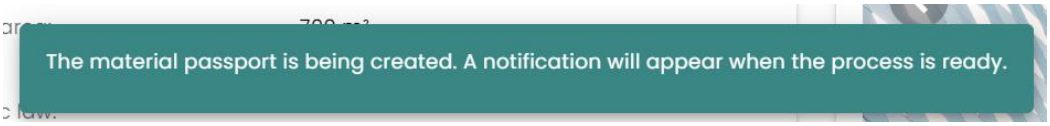
The option to generate passports from a folder has been removed; this can now only be done from the building.



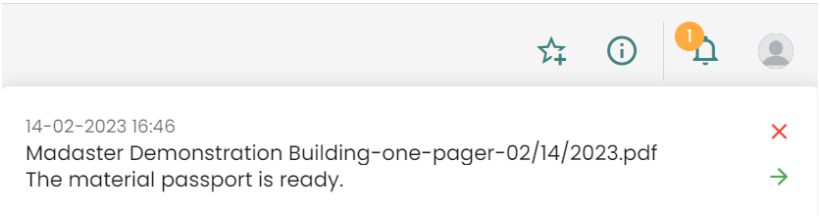
Once selected, this will open a pop-up from which it is possible to choose the type of passport to be generated for this building.



Regardless of the type, once the passport setup has been chosen a message is shown that the passport is being generated.



And as soon as it is ready a user notification is shown.

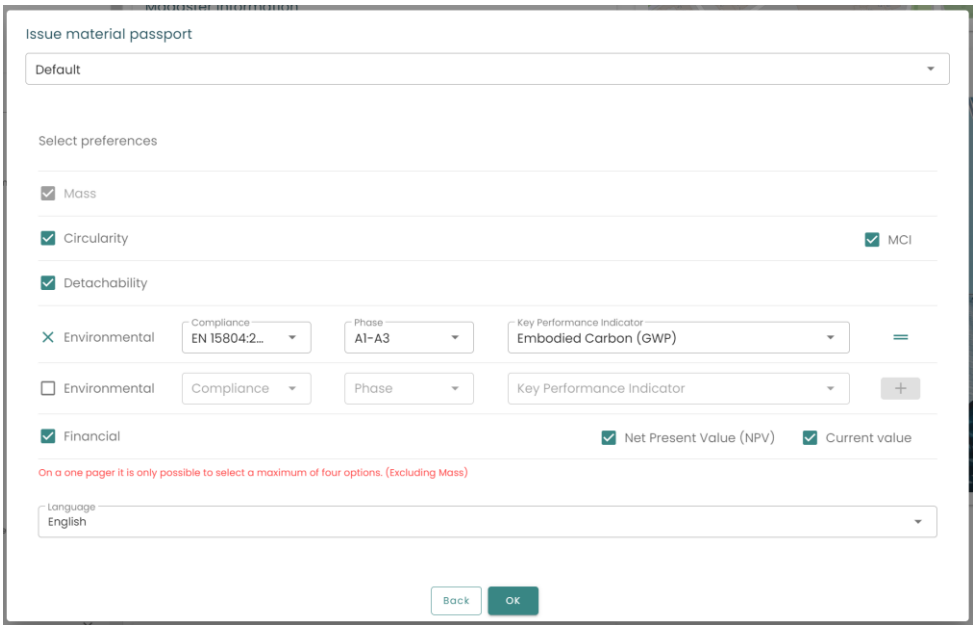


1: the notification which will appear on the top right when a passport is ready. Clicking the 'x' will remove the notification, clicking the arrow will open the dossier where the passport is located.

Which means it is available in the dossier of the building. Note that if data is unavailable for a chosen KPI or for a default field it will not appear in the passport.

2.1.2 One pager

The one pager passport is meant to give a concise overview of the building without too much additional insights. It can include only few items, since it needs to fit on one page. Therefore only a maximum of 5 KPI's can be included. Mass will always be included, which leaves 4 more options for configuration.



2: the one pager screen with too many KPI's selected

The one pager has the following design:

Material passport

Madaster Demonstration Building

OWNER
Circular Holdings

PREPARED BY
Circular Architects

ADDRESS
Circularity Street 123
12345 Amsterdam
Netherlands

GROSS SURFACE AREA
300 m^2

Material Intensity	2.17 t /m^2	Material intensity measures the amount of materials used per m2.
Circularity	49%	Circularity measures the degree of secondary materials used during construction, and potential for reuse & recycling at their end of use.
Detachability	73%	Detachability measures the degree to which materials and products can be disassembled without being damaged.
Current value per m^2	48 €/m^2	Current value measures the monetary value of the raw materials at this moment in time, accounting for the costs of disassembly, transportation and processing for re-sale.
Embodied Carbon (GWP)	299 kg CO_2e/m^2	The total environmental impact for A1-A3 (EN 15804).

Madaster

This Passport was created using Madaster - the online register for materials and products in the built environment. In Madaster, data is recorded on all materials and products used in a real estate or infrastructure object, providing insight into an object's material composition, circularity, detachability, environmental impact, and material value at end of life. Documenting materials in such a manner enables a better future with more material reuse, less impact on natural ecosystems, and less CO2 emissions.

Disclaimer

This Material Passport was realized without any intervention by (personnel and/or employees of) Madaster Services B.V. (hereinafter referred to as: 'Madaster') and/or the Madaster Foundation and is the sole and exclusive result of data imported by, or on behalf of the user, from the user's source files. Consequently, Madaster cannot be held accountable in any way for the incorrect, and/or incomplete and/or injudicious entry by the user of the required information.

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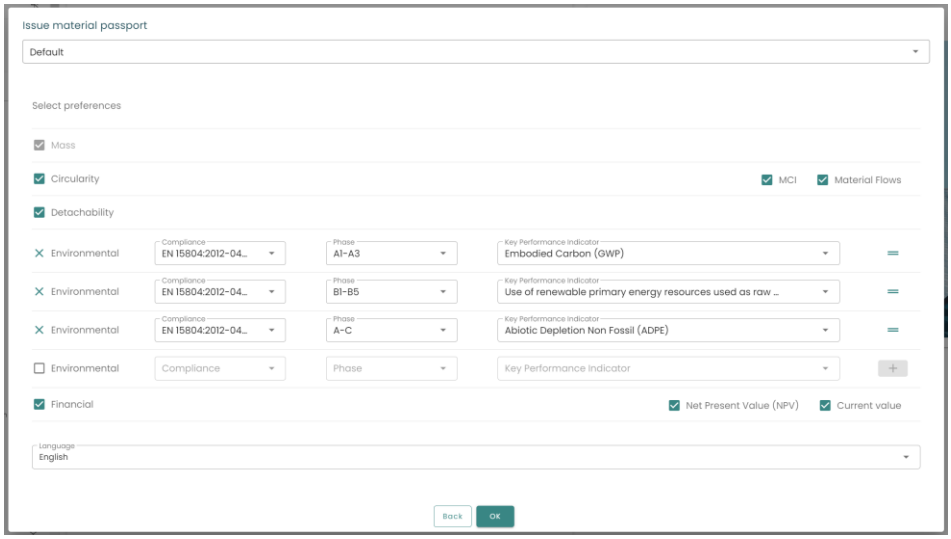
madaster

3: an example of the one pager passport. Only known data is shown. Elements like the building picture or the owner are included by default, the KPI's be chosen apart from mass – which is mandatory.

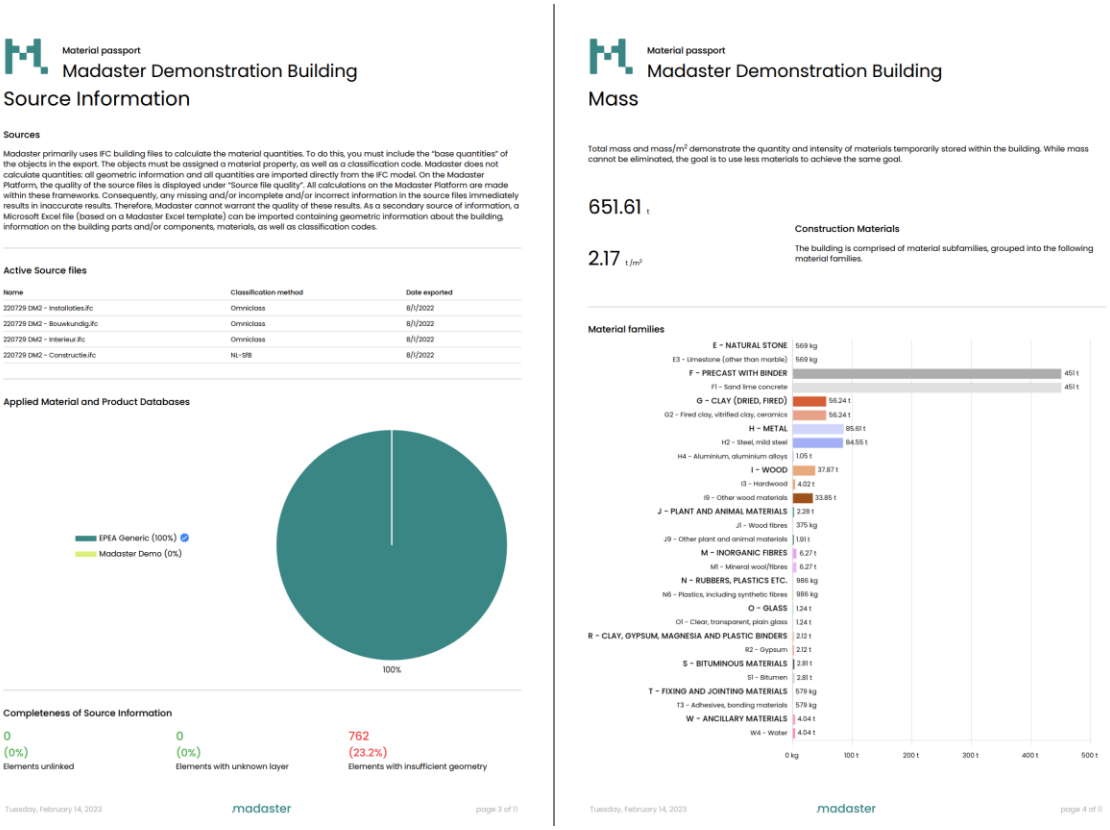
2.1.3 Executive summary passport

The executive summary is meant to give a lot more information than the one pager. It does not have a set maximum for the KPI's to be included.



But also in general it contains more detailed information.

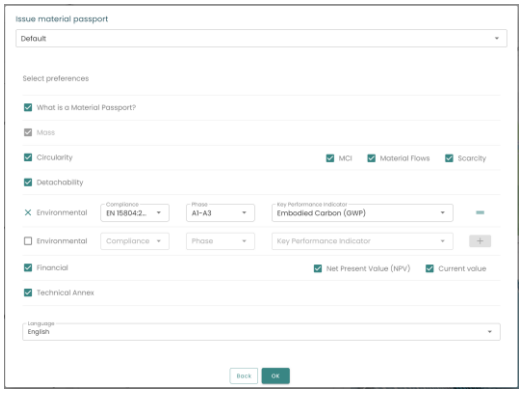
4: In the executive summary a lot more general information from the building is shown - if available



5: Source information like the classification method for the source files or the used databases is summarized. Each KPI, in this case the mass, is provided with insightful charts.

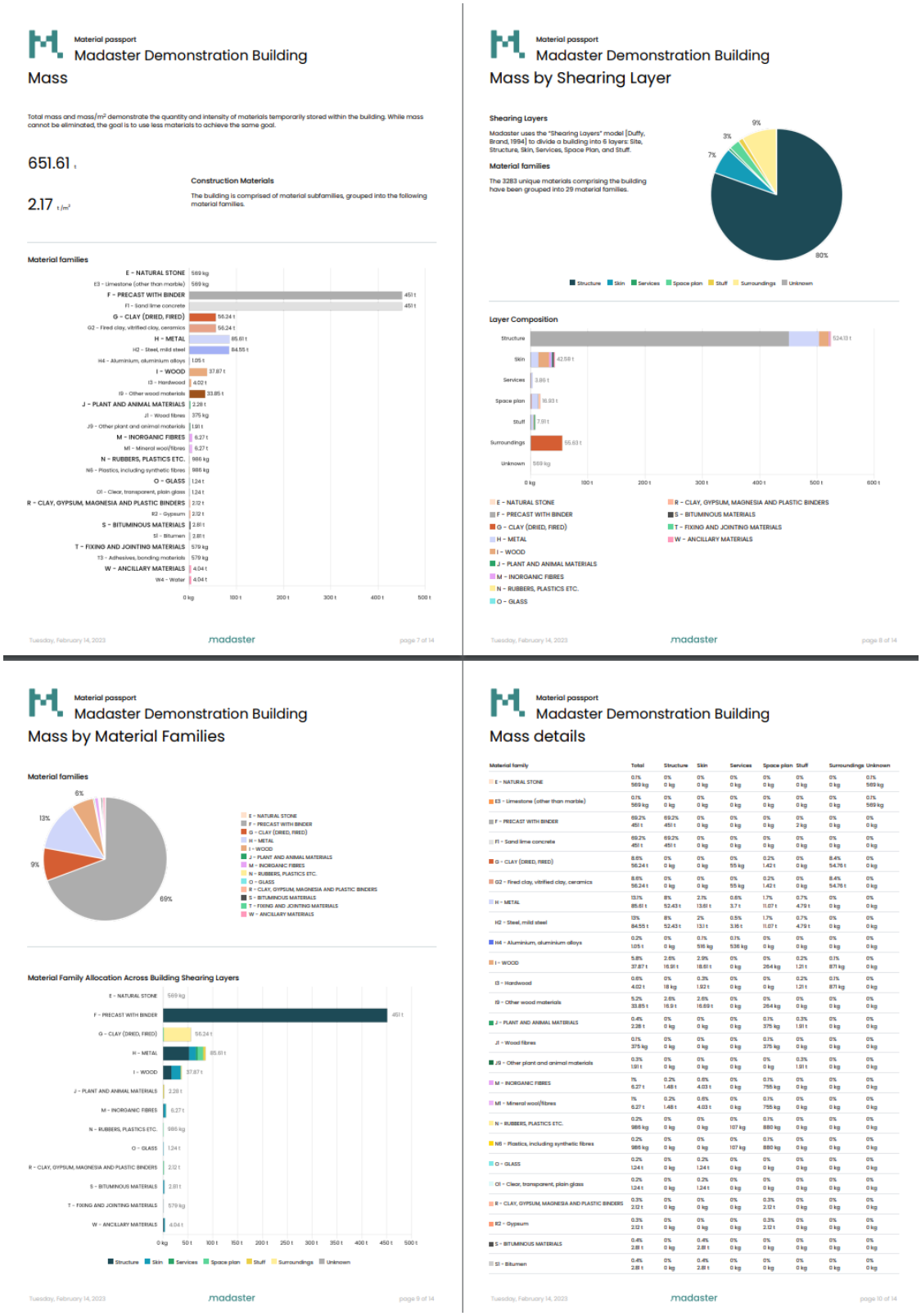
2.1.4 Full passport and the technical annex

The (full) passport is the most extensive passport option. It shows a lot more of the underlying data and it also has the option to include a technical annex, which is a separate excel export of the products and/or materials per shearing layer.



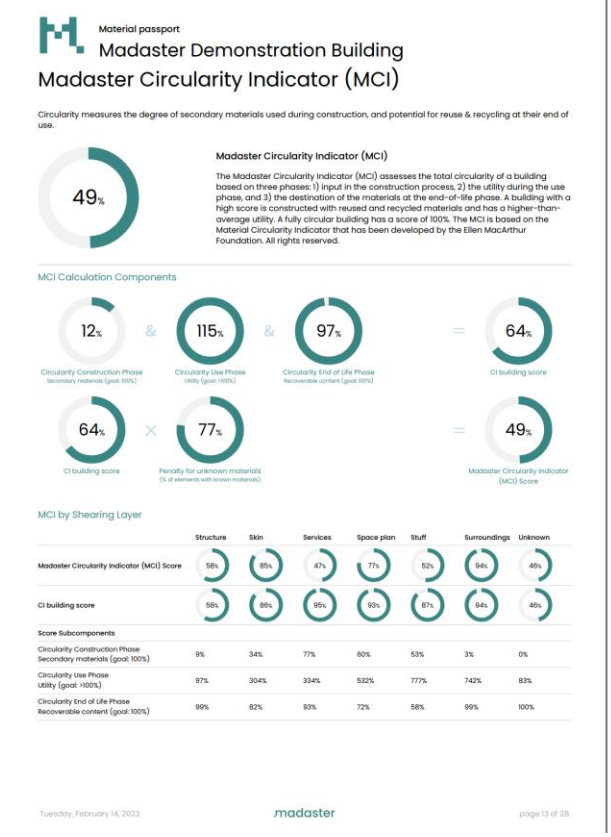
6: the configuration options for the full passport. It is possible to exclude the explanation about a material passport and to also generate the technical annex. Scarcity is also an additional option for the full passport, but is only available together with material flows.

An example is the mass, where it is clear from the screenshot from an example passport that it contains more detailed information about what it is and where it is located.



7: Mass in the full passport. An additional page with mass details is excluded here for the sake of brevity

Another KPI, circularity, in the full passport contains not just the MCI, but also information about how it is calculated, as well as circularity by either shearing layer or phase.



Material passport

Madaster Demonstration Building

Madaster Circularity Indicator (MCI)

Circularity measures the degree of secondary materials used during construction, and potential for reuse & recycling at their end of use.

49%

Madaster Circularity Indicator (MCI)

The Madaster Circularity Indicator (MCI) assesses the total circularity of a building based on three phases: 1) input in the construction process, 2) the utility during the use phase, and 3) the destination of the materials at the end-of-life phase. A building with a high score is constructed with reused and recycled materials and has a higher-than-average utility. A fully circular building has a score of 100%. The MCI is based on the Material Circularity Indicator that has been developed by the Ellen MacArthur Foundation. All rights reserved.

MCI Calculation Components

12% & 115% & 97% = 64%

Circularity Construction Phase (secondary materials (goal: 100%)) · Circularity Use Phase (utility (goal: >100%)) · Circularity End of Life Phase (recoverable content (goal:100%)) · CI building score

64% × 77% = 49%

CI building score · Penalty for unknown materials (% of elements with known materials) · Madaster Circularity Indicator (MCI) Score

MCI by Shearing Layer

	Structure	Skin	Services	Space plan	Stuff	Surroundings	Unknown
Madaster Circularity Indicator (MCI) Score	58%	85%	47%	77%	52%	94%	46%
CI building score	58%	86%	95%	93%	67%	94%	46%
Score Subcomponents							
Circularity Construction Phase Secondary materials (goal: 100%)	9%	34%	77%	60%	53%	3%	0%
Circularity Use Phase Utility (goal: >100%)	97%	304%	334%	532%	777%	742%	83%
Circularity End of Life Phase Recoverable content (goal: 100%)	99%	82%	93%	72%	58%	99%	100%

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Material passport

Madaster Demonstration Building

Circularity Construction Phase

	Structure	Skin	Services	Space plan	Stuff	Surroundings	Unknown
Secondary materials (goal: 100%)	9% 47.12 t	34% 14.31 t	77% 2.98 t	60% 10.12 t	53% 4.18 t	3% 1.62 t	0% 0 kg
Mass of product (t)	524.13 t	42.58 t	3.86 t	16.93 t	7.91 t	55.63 t	569 kg
Mass Composition							
Applied recycled materials (% of mass)	9% 47.12 t	34% 14.31 t	77% 2.98 t	60% 10.12 t	53% 4.18 t	3% 1.62 t	0% 0 kg
Applied rapidly renewable material (% of mass)	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg
Applied reused components (% of mass)	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg	0% 0 kg
Recycling							
Efficiency of recycling process for construction phase (%)	100%	100%	100%	100%	100%	100%	0%
Mass of waste generated during recycling process (t)	0 kg	0 kg	0 kg	0 kg	0 kg	0 kg	0 kg

Circularity Use Phase

	Structure	Skin	Services	Space plan	Stuff	Surroundings	Unknown
Utility (goal: >100%)	97%	304%	334%	532%	777%	742%	83%
Actual average lifetime of materials (years)	97	61	50	53	39	148	50
Actual industry-average lifetime of materials (years)	100	20	15	10	5	20	60

Circularity End-Of-Life Phase

	Structure	Skin	Services	Space plan	Stuff	Surroundings	Unknown
Recoverable content (goal: 100%)	99%	82%	93%	72%	58%	99%	100%
Mass of product (t)	524.13 t	42.58 t	3.86 t	16.93 t	7.91 t	55.63 t	569 kg
Mass Composition							
Materials for recycling which are going to be collected (% of mass)	99% 521.12 t	82% 34.72 t	93% 3.57 t	72% 12.24 t	58% 4.55 t	99% 55.09 t	100% 569 kg
Components for reuse which are going to be collected (% of mass)	0% 521.12 t	0% 34.72 t	0% 3.57 t	0% 12.24 t	0% 4.55 t	0% 55.09 t	0% 569 kg
Mass of potential landfill & energy incineration (t)	3 t	7.86 t	286 kg	4.69 t	3.36 t	548 kg	0 kg
Recycling							
Efficiency of recycling process for end of life phase (%)	100%	100%	100%	100%	100%	100%	0%
Mass of potential landfill & energy incineration of the recycling process (t)	0 kg	0 kg	0 kg	0 kg	0 kg	0 kg	0 kg

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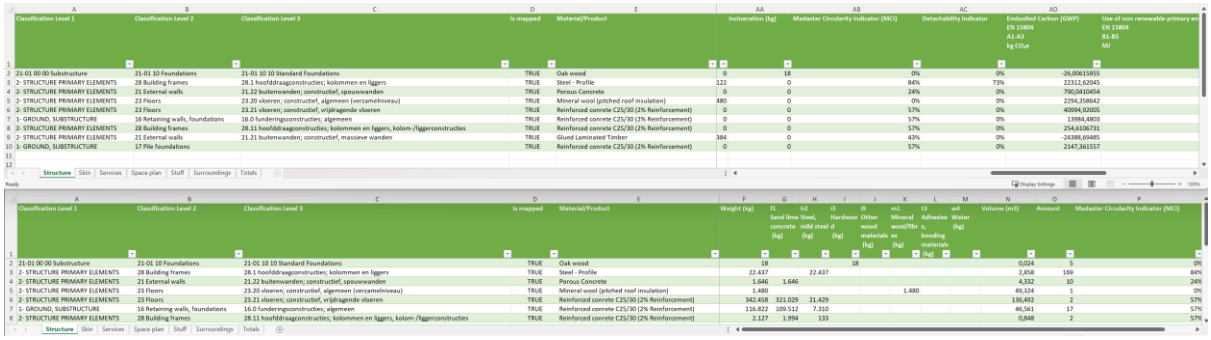
When one has opted for also generating the technical annex a separate excel file will be placed in the dossier of the building. This annex will be filled with the materials or products divided in separate sheets for each shearing layer. The columns for each product/material are dependent on which KPI's have been chosen for the passport.



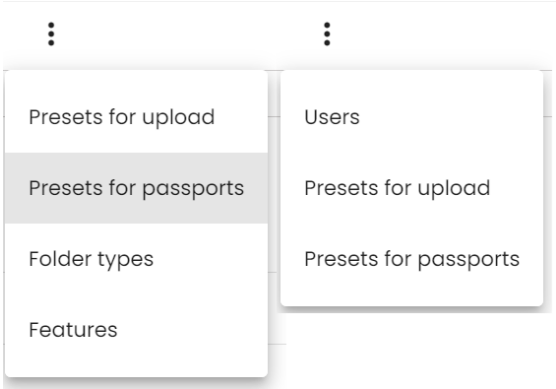
Classification Level 1	Classification Level 2	Classification Level 3	Is mapped	Material/Product	Incineration (kg)	Madaster Circularity Indicator (MCI)	Detachability Indicator	Embodied Carbon (GWP) EN 15804 A1-A3 kg CO2e	Use of non renewable primary en EN 15804 B1-B5 MJ
21-01 00 00 Substructure	21-01 10 Foundations	21-01 10 10 Standard Foundations	TRUE	Oak wood	0	18	0%	0%	-26,80615955
2- STRUCTURE PRIMARY ELEMENTS	28 Building frames	28.1 hoofddraagconstructies; kolommen en liggers	TRUE	Steel - Profile	122	0	84%	73%	22312,62045
2- STRUCTURE PRIMARY ELEMENTS	21 External walls	21.22 buitenwanden; constructief, spouwwanden	TRUE	Porous Concrete	0	0	24%	0%	790,0410454
2- STRUCTURE PRIMARY ELEMENTS	23 Floors	23.20 vloeren; constructief, algemeen (verzamelniveau)	TRUE	Mineral wool (pitched roof insulation)	480	0	0%	0%	2294,358642
2- STRUCTURE PRIMARY ELEMENTS	23 Floors	23.21 vloeren; constructief, vrijdragende vloeren	TRUE	Reinforced concrete C25/30 (2% Reinforcement)	0	0	57%	0%	40994,92005
1- GROUND, SUBSTRUCTURE	16 Retaining walls, foundations	16.0 funderingsconstructies; algemeen	TRUE	Reinforced concrete C25/30 (2% Reinforcement)	0	0	57%	0%	13984,4803
2- STRUCTURE PRIMARY ELEMENTS	28 Building frames	28.11 hoofddraagconstructies; kolommen en liggers, kolom-/liggerconstructies	TRUE	Reinforced concrete C25/30 (2% Reinforcement)	0	0	57%	0%	254,6106731
2- STRUCTURE PRIMARY ELEMENTS	21 External walls	21.21 buitenwanden; constructief, massieve wanden	TRUE	Glued Laminated Timber	384	0	43%	0%	-24388,69485
1- GROUND, SUBSTRUCTURE	17 Pile foundations		TRUE	Reinforced concrete C25/30 (2% Reinforcement)	0	0	57%	0%	2147,361557

Classification Level 1	Classification Level 2	Classification Level 3	Is mapped	Material/Product	Weight (kg)	f1 Sand lime concrete (kg)	h2 Steel, mild steel (kg)	i3 Hardwood (kg)	i9 Other wood materials (kg)	m1 Mineral wool/fibres (kg)	t3 Adhesives, bonding materials (kg)	w4 Water (kg)	Volume (m3)	Amount	Madaster Circularity Indicator (MCI)
21-01 00 00 Substructure	21-01 10 Foundations	21-01 10 10 Standard Foundations	TRUE	Oak wood	18				18				0,024	5	0%
2- STRUCTURE PRIMARY ELEMENTS	28 Building frames	28.1 hoofddraagconstructies; kolommen en liggers	TRUE	Steel - Profile	22.437		22.437						2,858	169	84%
2- STRUCTURE PRIMARY ELEMENTS	21 External walls	21.22 buitenwanden; constructief, spouwwanden	TRUE	Porous Concrete	1.646	1.646							4,332	10	24%
2- STRUCTURE PRIMARY ELEMENTS	23 Floors	23.20 vloeren; constructief, algemeen (verzamelniveau)	TRUE	Mineral wool (pitched roof insulation)	1.480					1.480			49,324	1	0%
2- STRUCTURE PRIMARY ELEMENTS	23 Floors	23.21 vloeren; constructief, vrijdragende vloeren	TRUE	Reinforced concrete C25/30 (2% Reinforcement)	342.458	321.029	21.429						136,492	2	57%
1- GROUND, SUBSTRUCTURE	16 Retaining walls, foundations	16.0 funderingsconstructies; algemeen	TRUE	Reinforced concrete C25/30 (2% Reinforcement)	116.822	109.512	7.310						46,561	17	57%
2- STRUCTURE PRIMARY ELEMENTS	28 Building frames	28.11 hoofddraagconstructies; kolommen en liggers, kolom-/liggerconstructies	TRUE	Reinforced concrete C25/30 (2% Reinforcement)	2.127	1.994	133						0,848	2	57%

8: two different excel annexes from the same building with differently chosen KPI's

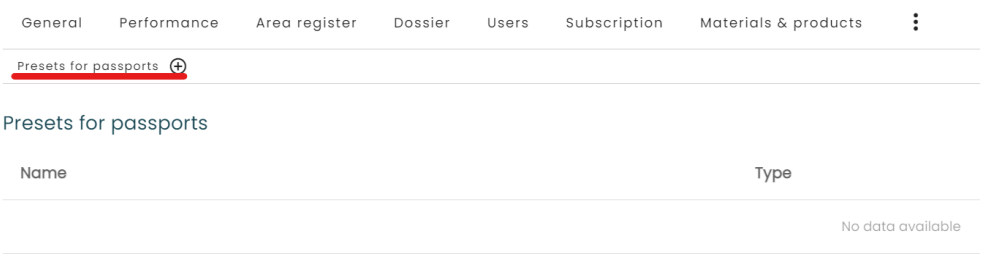
2.1.5 Passport presets

Since it is now possible to select the data you want to include in the passport, functionality has been added to preset your own default KPI's. This can only be done by the Madaster administrator. The presets are available on account, folder and building level. Normally only the presets at the account level are available, but it is possible to break this inheritance in case the presets at a lower level should be different.

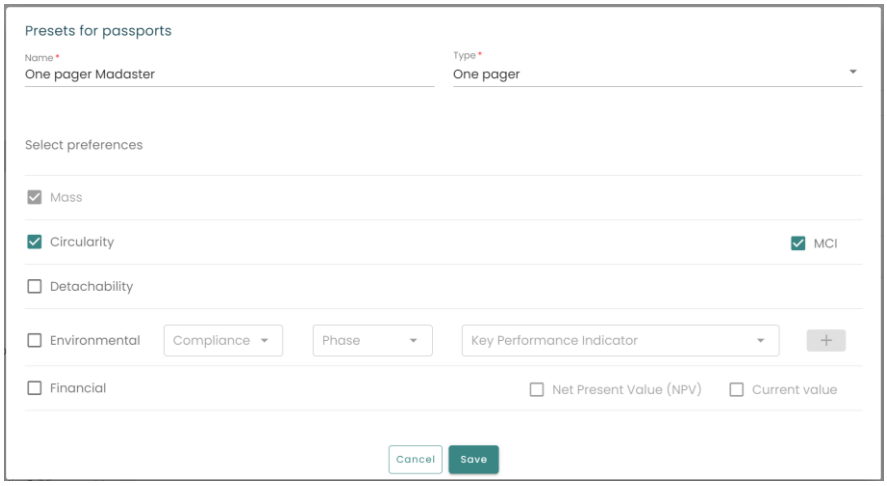


9: presets for passports can be picked at the three vertical dots on accounts, folders or buildings

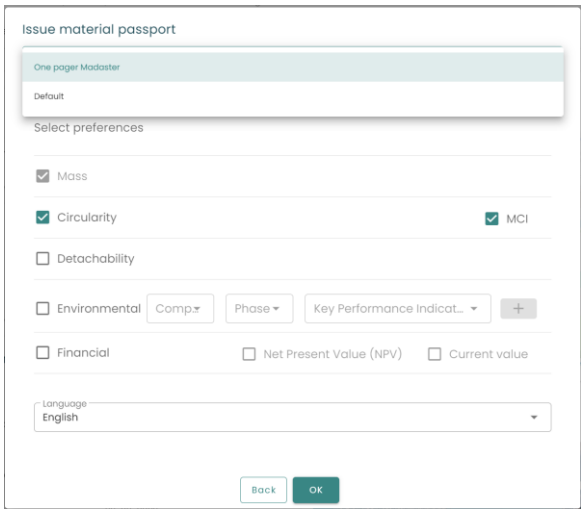
In this screen it is possible to add a new preset



Once clicked a new popup will open where it is possible to define this new preset. All the options for the KPI's you have on the regular passport screen can be filled in here as well as a name for your preset and of course for which passport type it is.

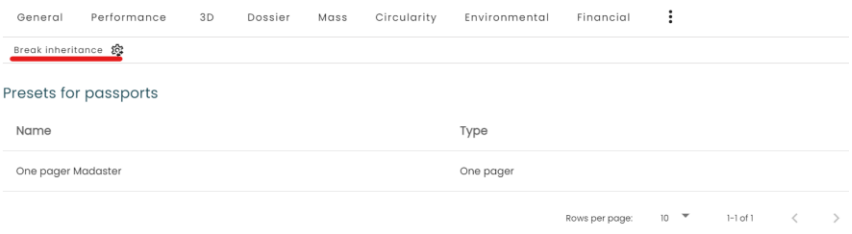


This new preset will then be an option when you generate a new passport of that type

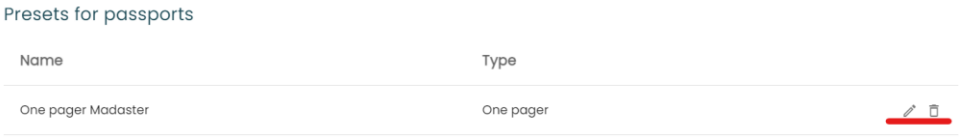


10: Options at the top of the screen for generating a passport. "Default" is the default from the Madaster platform.

Now, to have different presets on for example the building level it is possible to break the inheritance



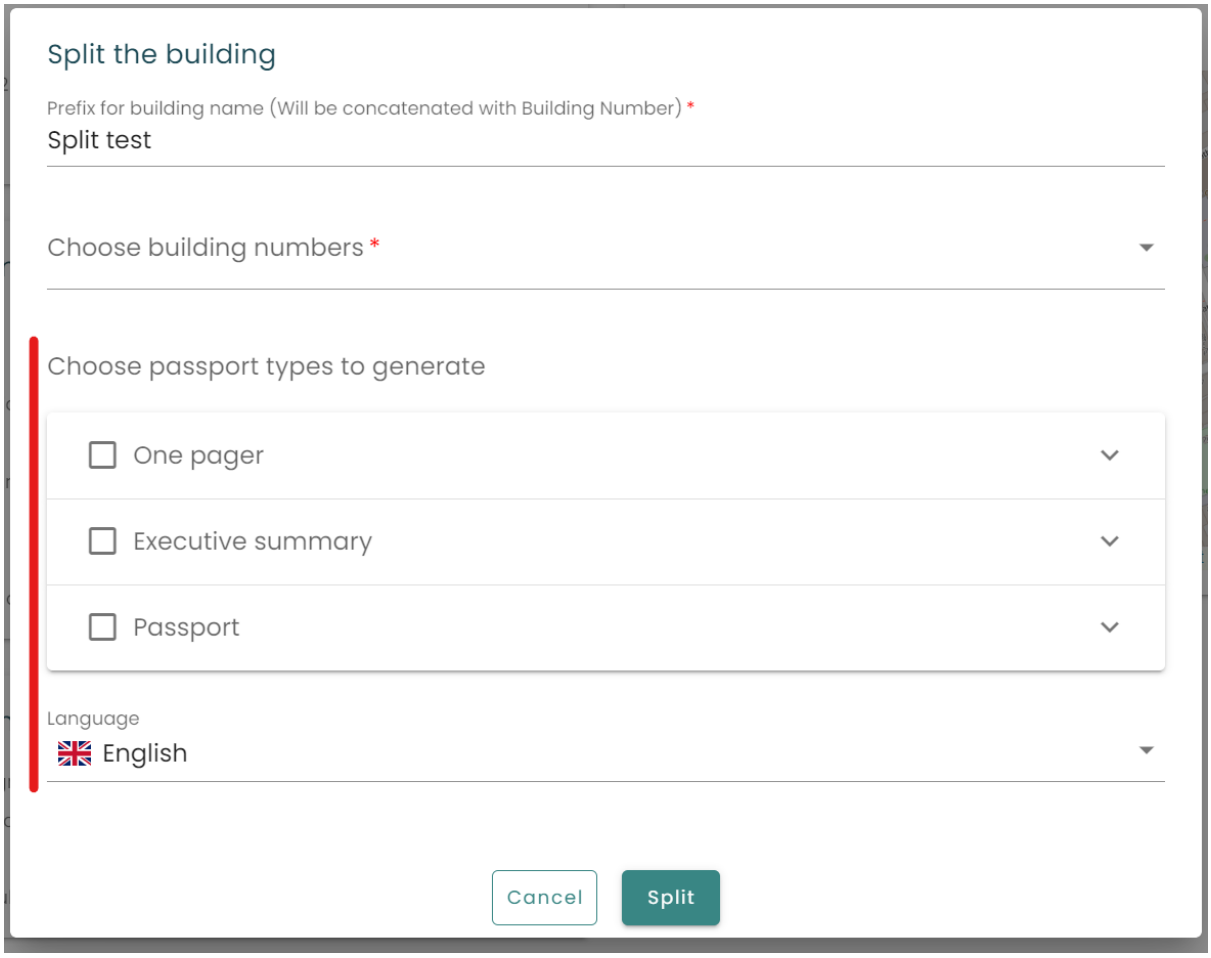
This will make a copy of the current presets, but they can be edited or deleted



It is also possible to restore the inheritance. This will, however, delete the presets on this level.

2.1.6 Generate passport options when splitting, transferring or archiving

It is possible to generate a passport when splitting, transferring or archiving buildings



2.2 Other changes

2.2.1 New feature: 3D insights on circularity and environmental tabs of a building

A new feature has been added to the platform, which when bought will give 3D insights on circularity and environmental information of the materials/products of a building.

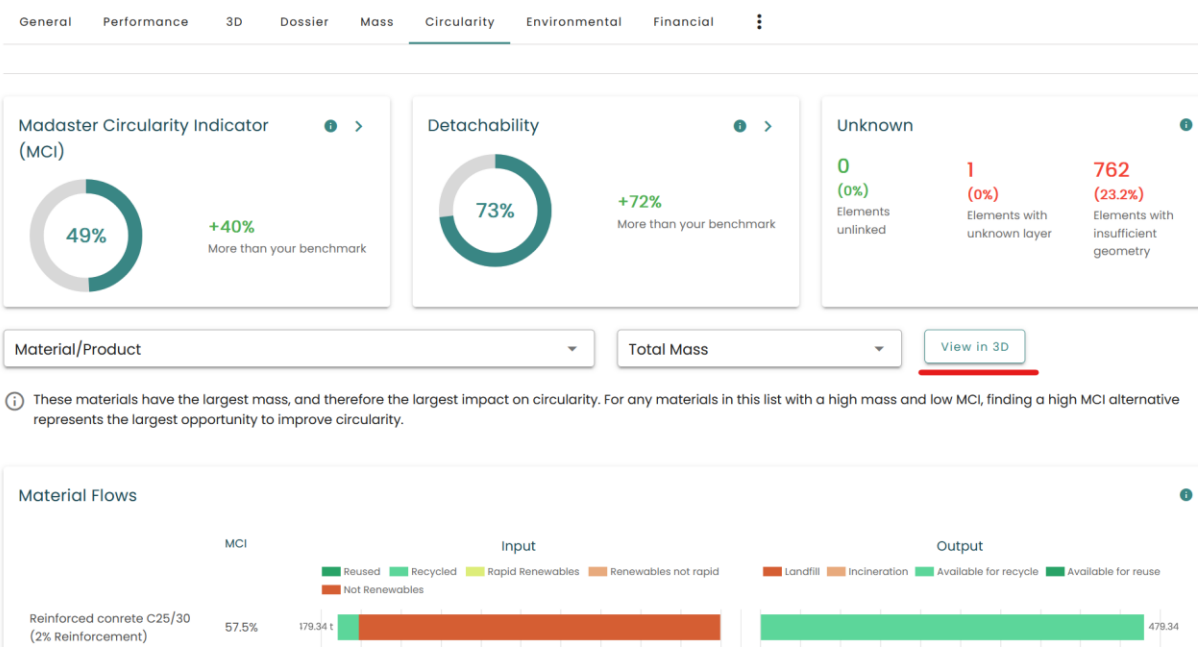


Figure 11: in the circularity and environmental tabs it is now possible to view the materials/products in the 3D model by using this button

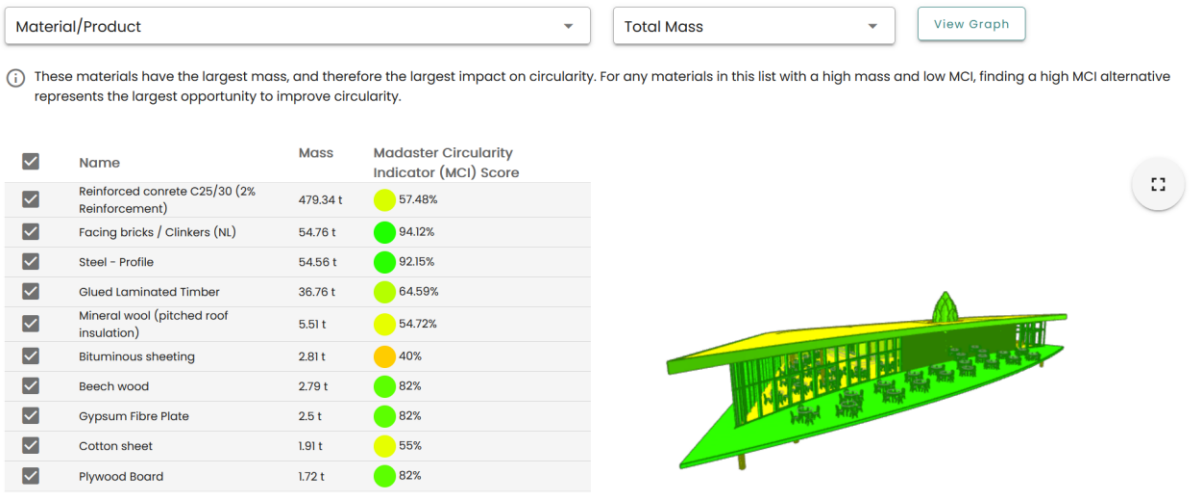
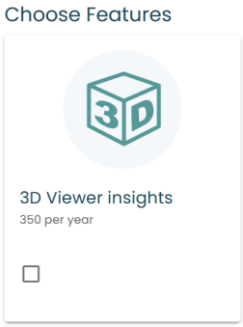
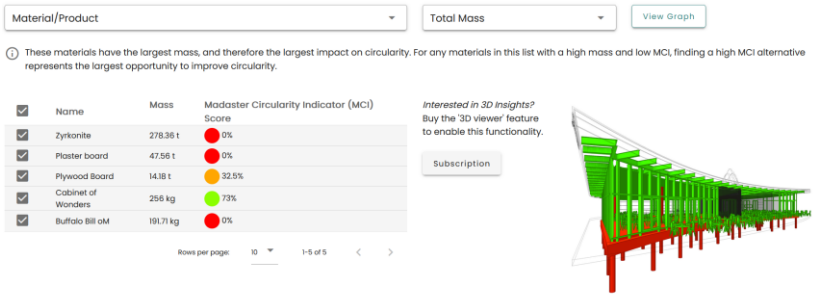


Figure 12: when using the 3D button the graph will change to the 3D model where it is also possible to select certain materials or products. With the view graph button it will switch back to the graph.

The 3D insights can be bought from the subscription tab on the account.



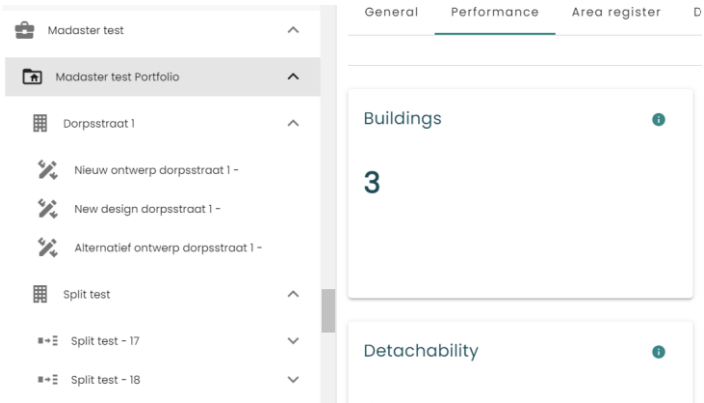
When the feature is not active a preview is shown when clicking the ‘view in 3D button’ in the circularity or environmental tabs.



2.2.2 Designs, archived and split buildings in the performance tab and area register

For the calculations on the performance tab on folder, account level or in the area register, and also for which buildings are shown in the area register a number of objects are excluded:

- Designs of buildings
- Archives of buildings
- If a building is split: the original

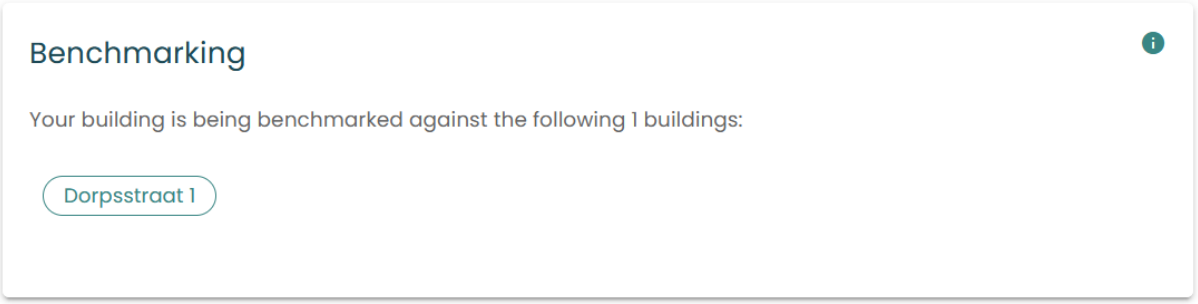


13: Two buildings, one of them is split, results in 3 buildings in the performance tab and for calculations and in the area register.

2.2.3 Changes to benchmarking on the performance tab of a design or archive

It is no possible to change your benchmark settings in the performance tab on a design or archived building to compare it with other specific buildings, for example other designs:

This selection is visible on the performance tab itself



2.2.4 Changes to the calculations for LCA stage B4 (use stage: replacement)

The lifespan of a product connected to a building is now taken into account in relation to the lifespan of the whole building. This means that if a product is expected to be replaced four times during the lifespan of the building this is taken into account for the calculations in the replacement use stage.

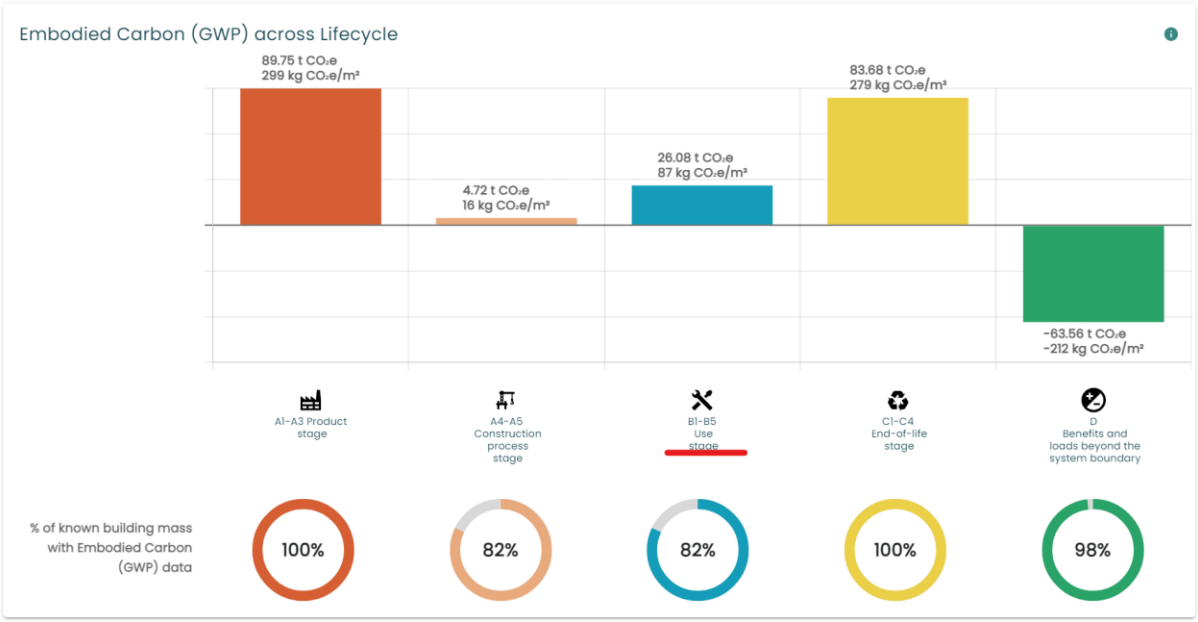


Figure 14: a building with an expected lifespan of 60 years

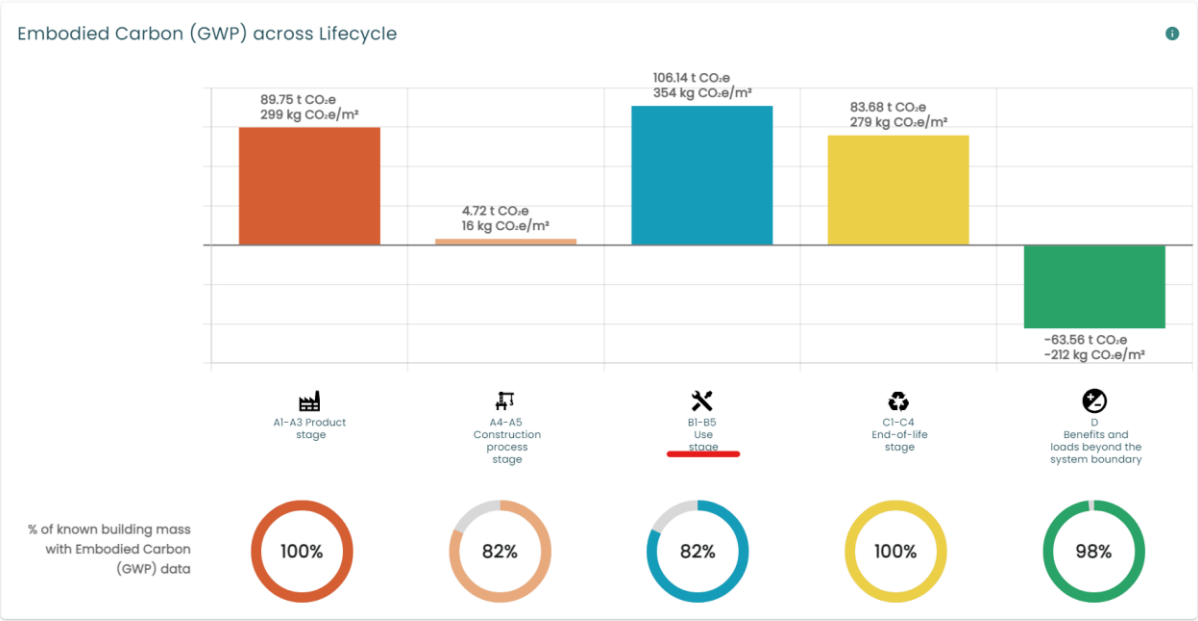


Figure 15: the same building as in figure 12; but now with an expected lifespan of 120 years

2.2.5 Additional information at the MCI detail view

When clicking on the MCI details two new columns have been added:

- The penalty for unknown materials
- Madaster Circularity Indicator (MCI) Score

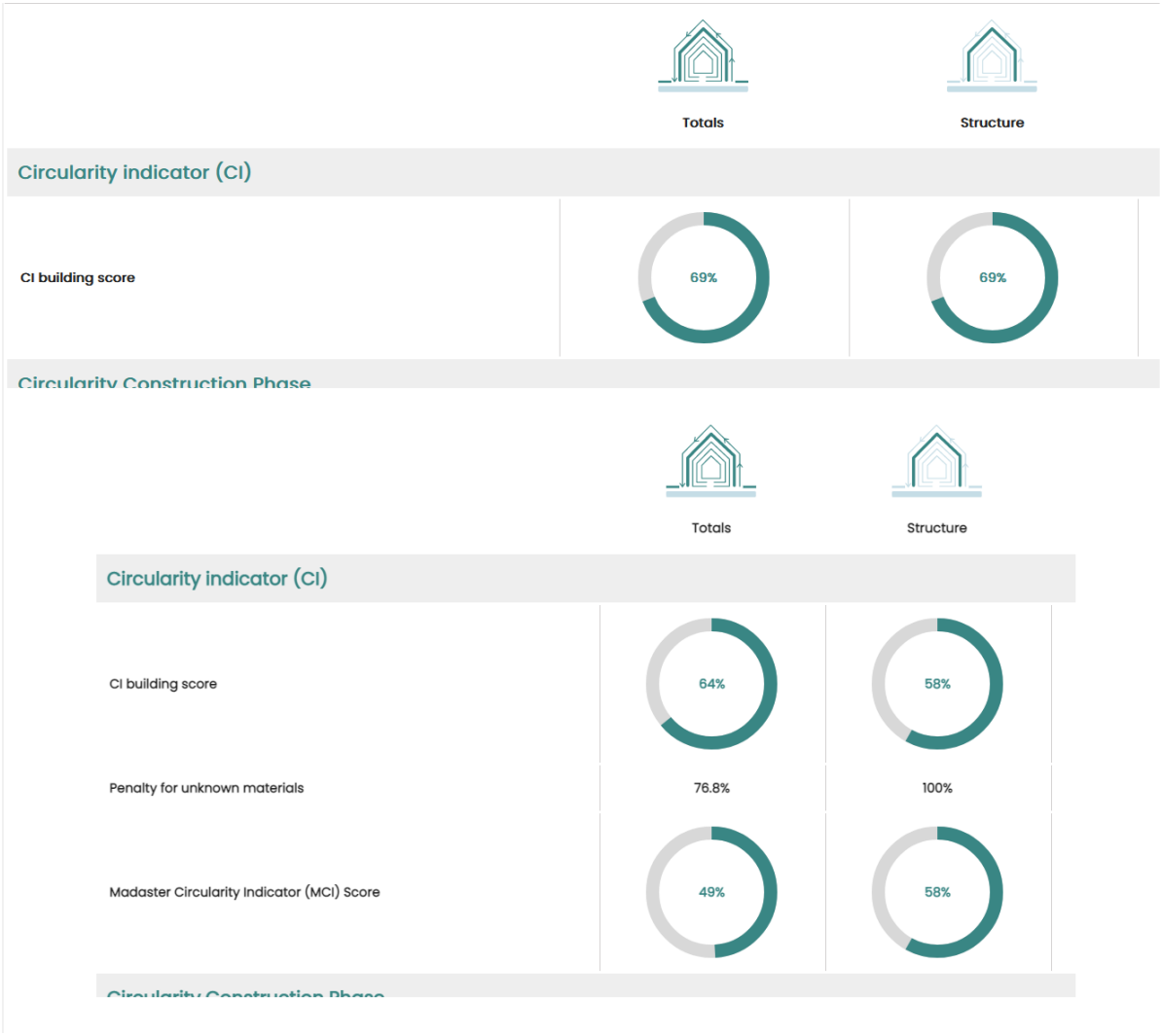


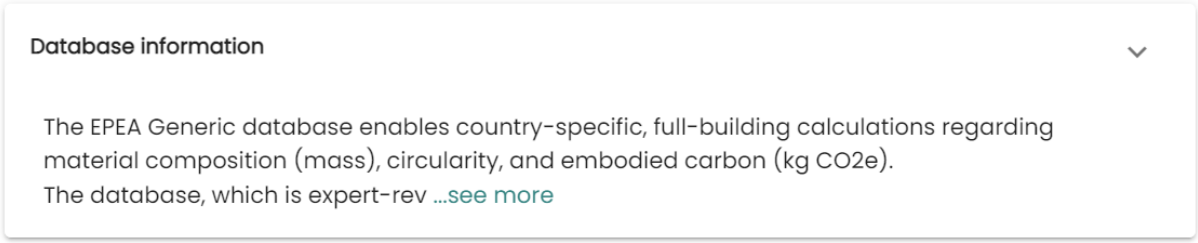
Figure 16: on top how it was, on the bottom what it is now.

2.2.6 Split building can now be activated

The split building feature used to be only accessible through invitation, this has been changed

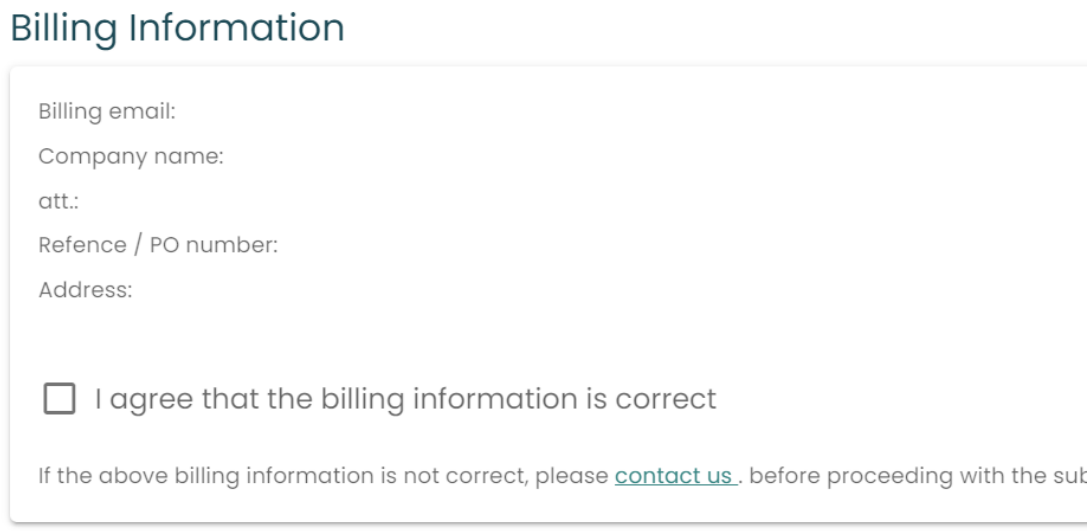
2.2.7 “See more” at database information

To indicate that there is more text a ‘…see more’ has been added to the database information field



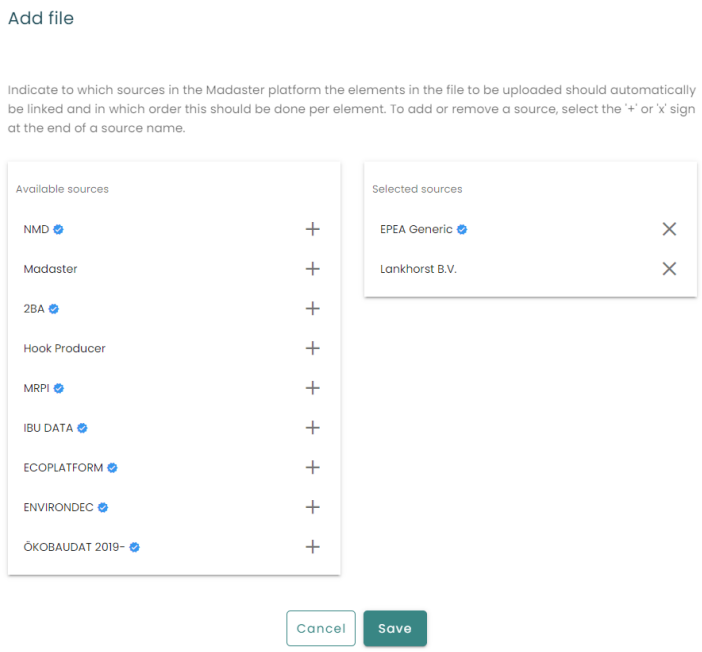
2.2.8 Billing information shown when modifying a subscription

When a subscription is modified, the current known billing information is shown:



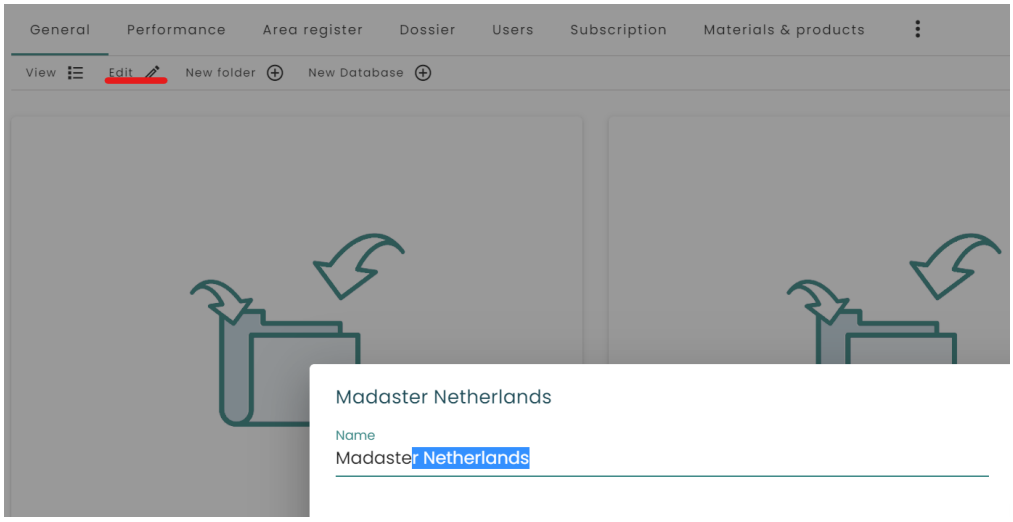
2.2.9 Database selection when uploading files for a building

The EPEA generic database is now the default when uploading a file for a building. We've removed the blue checkmark for the Madaster database.



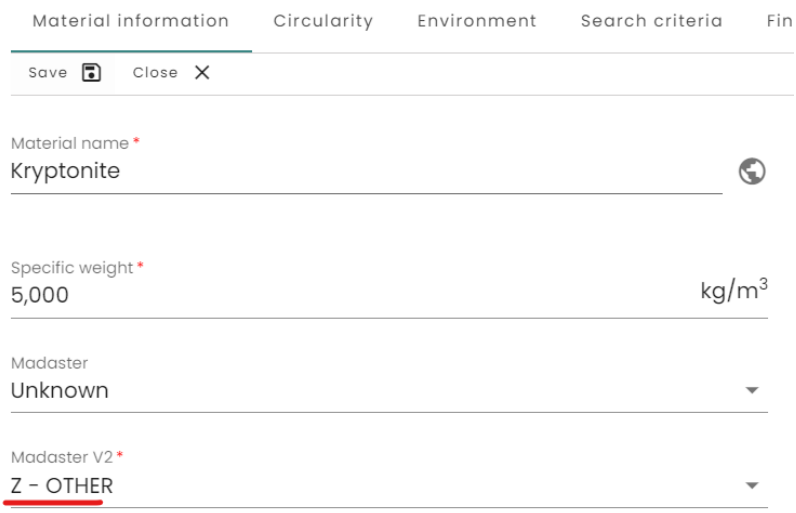
2.2.10 Possibility to change the name of the account

It is now possible to change the name of an account in Madaster by using the edit button in the general tab of an account. This will only change the name in the platform, so not for billing or other purposes.



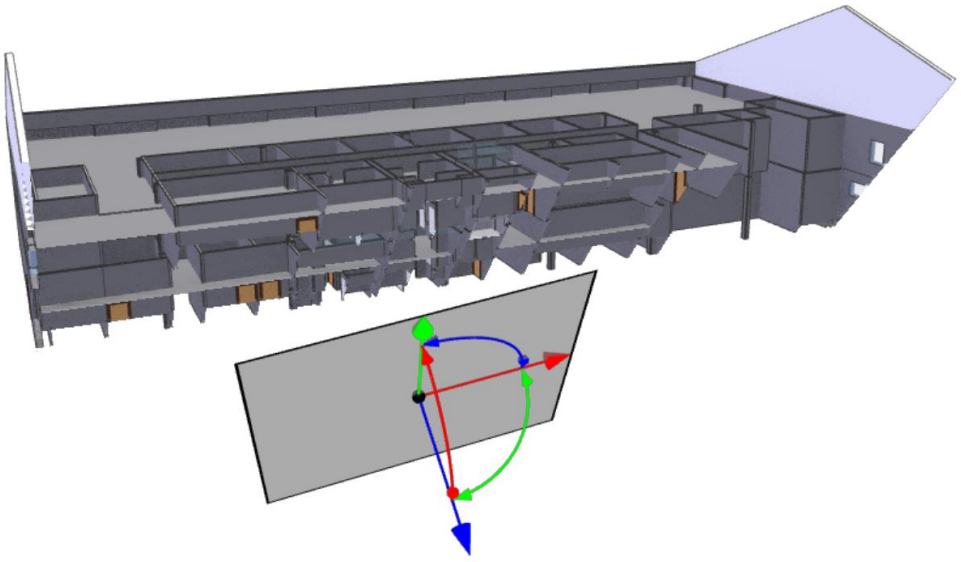
2.2.11 Additional Madaster V2 classification

There is now an additional option for the Madaster V2 classification when adding or editing a material in a database and when enriching.



2.2.12 Slice a 3D model

In the 3D viewer of a building it is now possible to slice it.



2.2.13 The ‘bill of materials’ for circularity is unchecked by default

If you would add a product to a database in Madaster the default was to use the bill of materials for the circularity data, this has been changed.

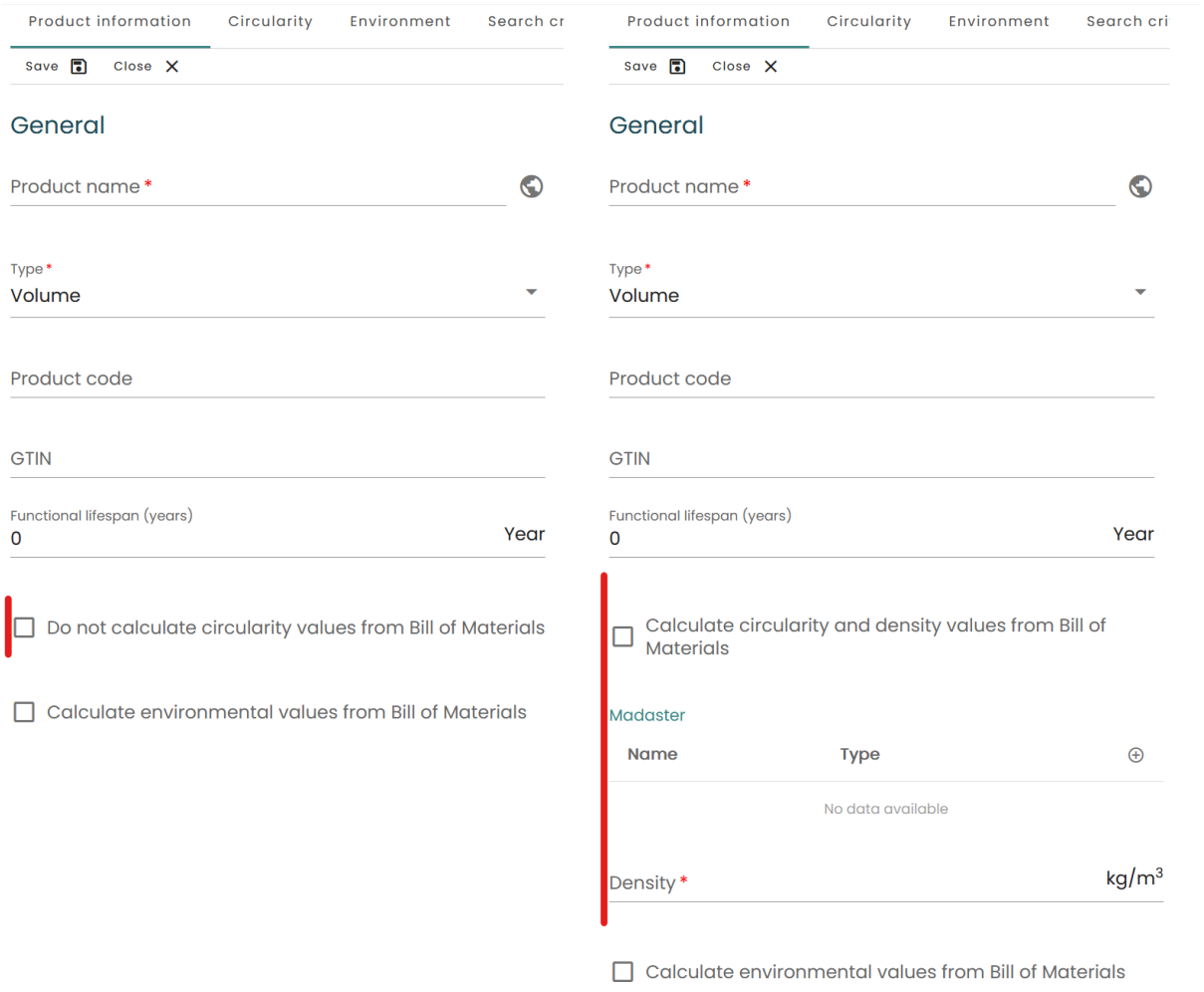


Figure 17: on the left the old situation, on the right the new one

2.2.14 Color changes in the charts

A number of charts have been given different colors in line with our new design which was introduced not long ago.

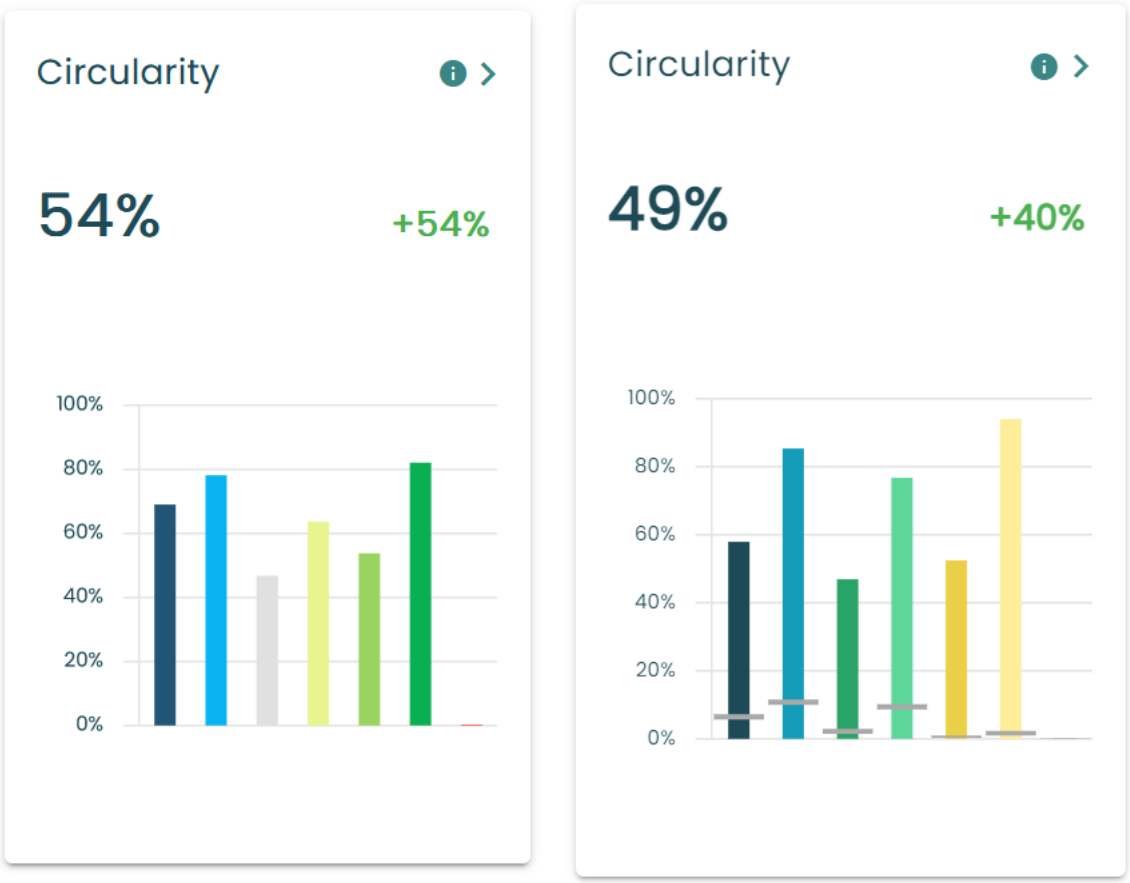
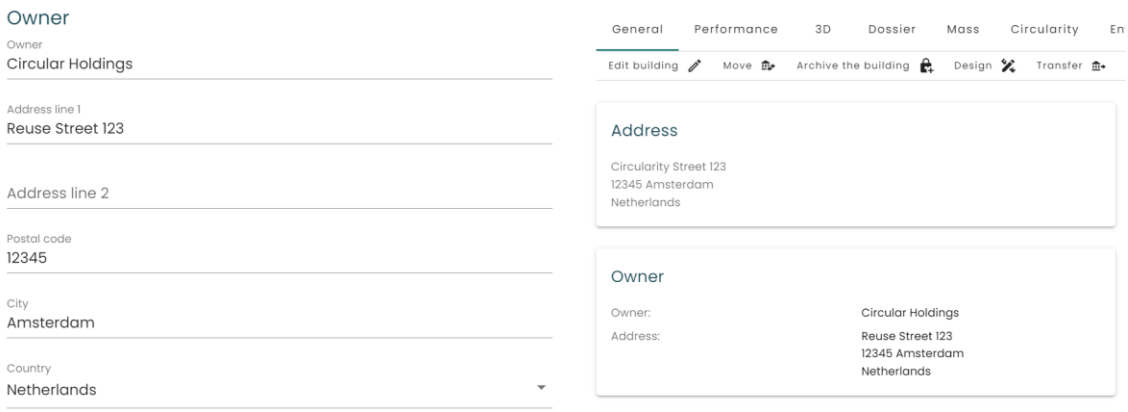


Figure 18: on the left the old color scheme and on the right the new one. One of many charts that have changed colors.

2.2.15 Changes on building and folder type fields

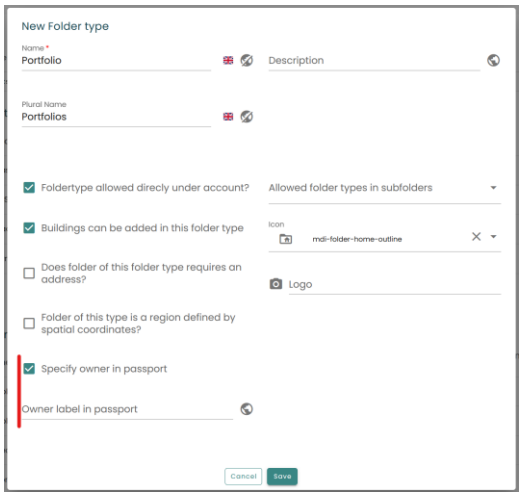
- The manual or indicative MPG score is now shown in €/m2.jr instead of €/m2

- There are new fields for the owner on a building

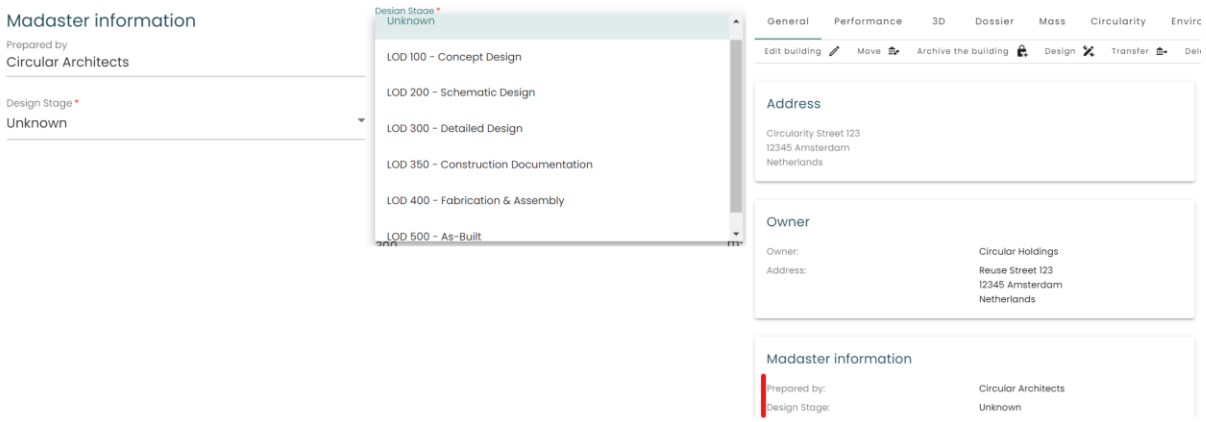


19: The new owner fields. Left how they are when editing a building, on the right what they look like in the general tab of the building

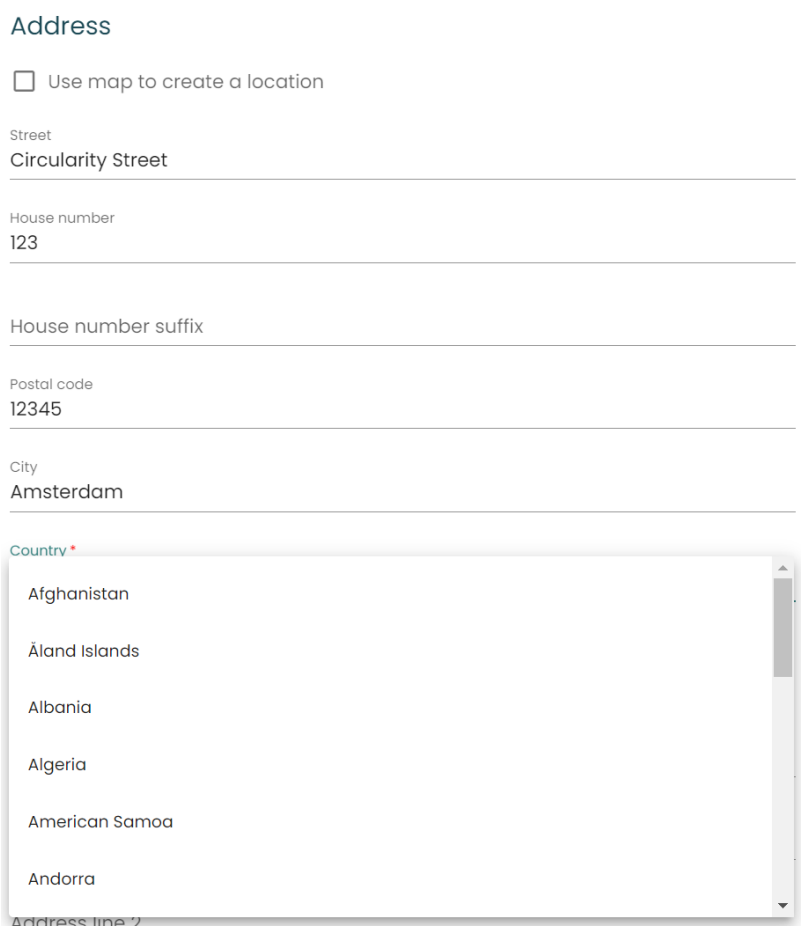
- Because of the addition of the owner field on the building the fields ‘specify owner in passport’ and ‘owner label in passport’ have been removed from folder type.



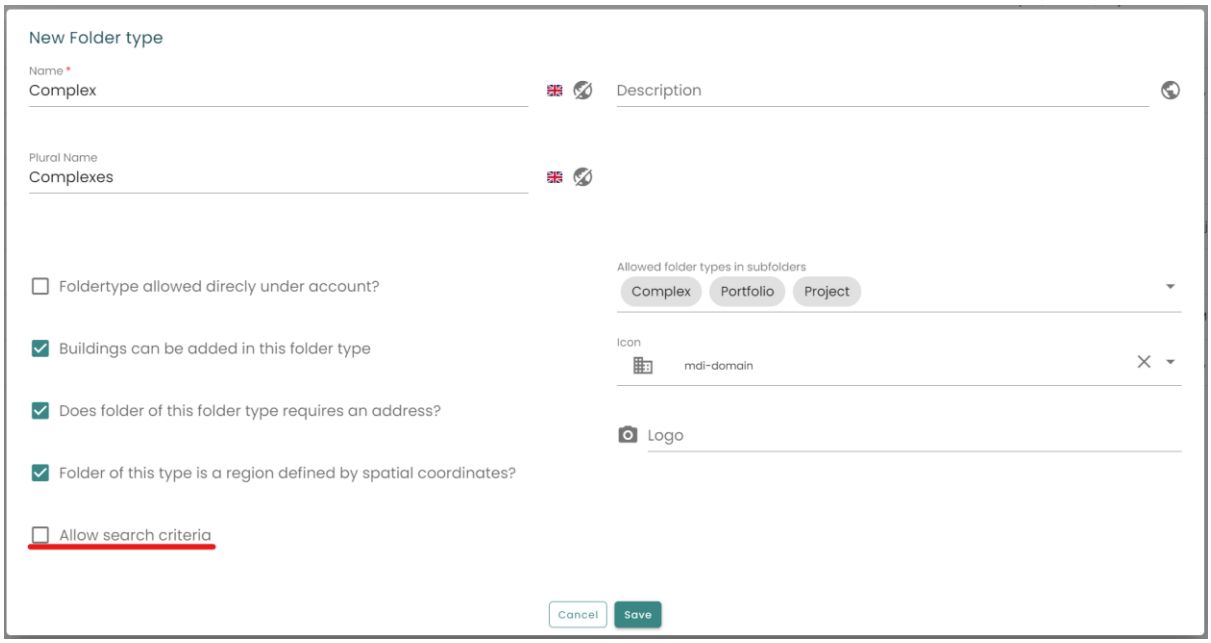
- Fields for ‘prepared by’ and ‘design stage’ have been added. The design stage is filled using the level of detail (LOD).



- It is now possible to choose any country at the address for a building

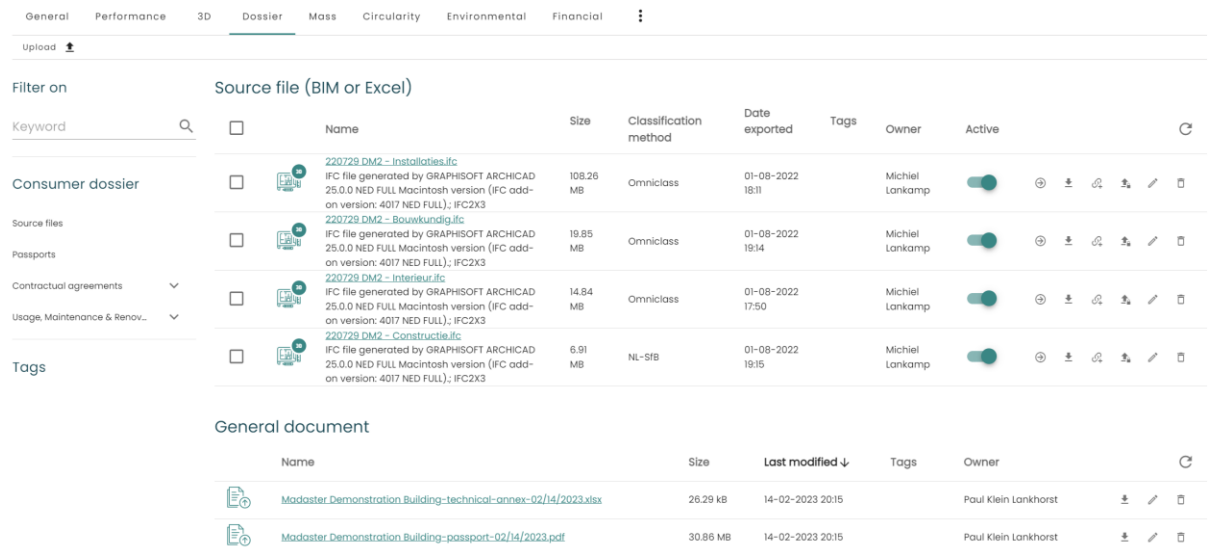


- It is now possible to allow search criteria for a folder type:

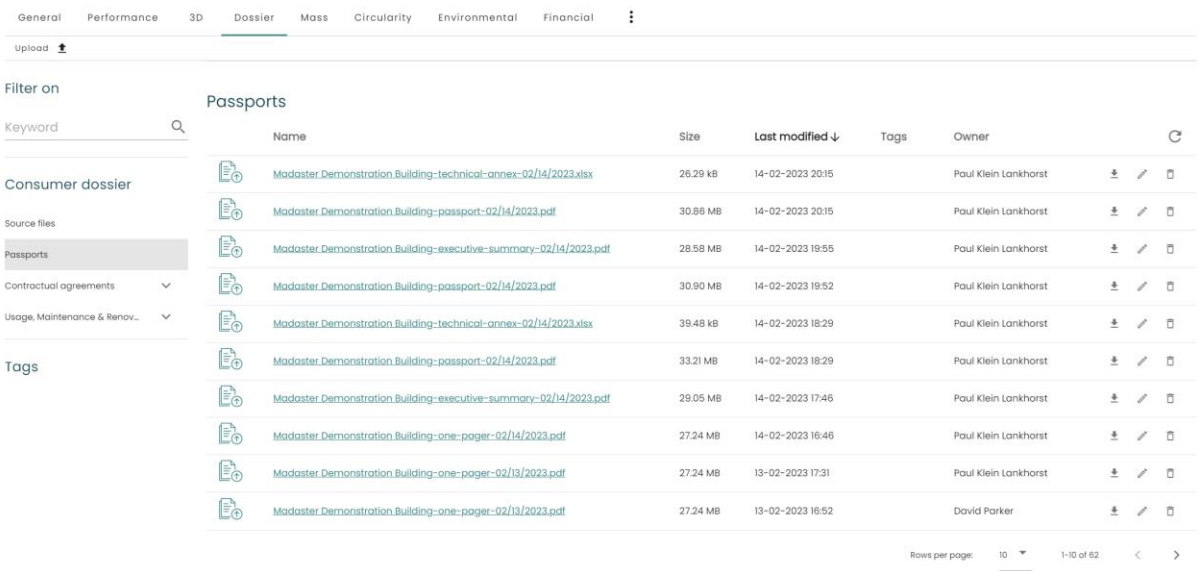


2.2.16 Changes in navigation

- When at a dossier on a building the source files are now a ‘folder’, and when you select a folder only the files from that specific folder are shown. It used to be that the source files were always kept on top, which is still the case when no folders are selected. Also, the sequence of the folders has been changed.

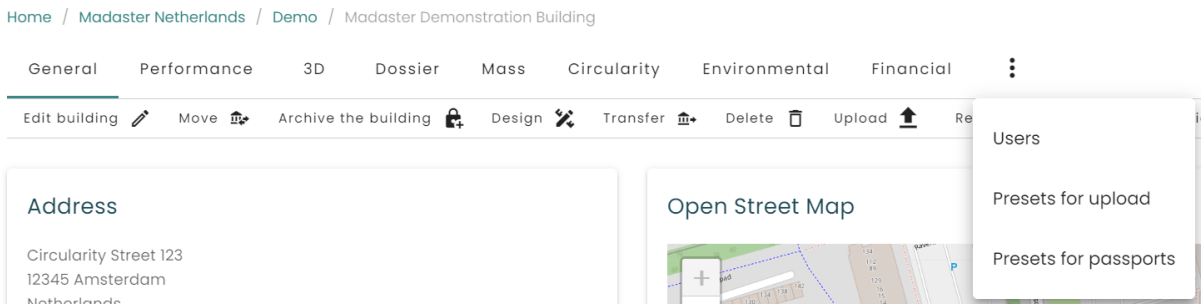


20: the view when no folders are selected. The source files are on top and the other documents below.

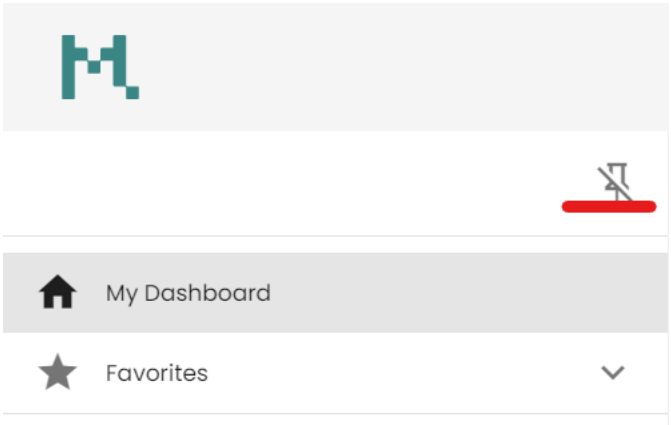


21: once a folder is selected only the files from that folder are shown.

- In the building tabs “Users” and “Presets for Upload” (and the newly introduced “Presets for Upload” have been placed as additional options under three vertical dots

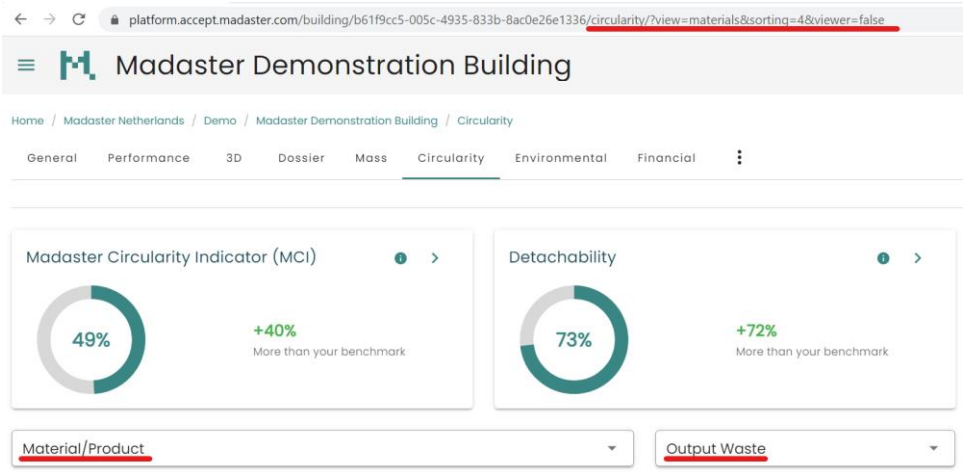


- For new users the left navigation is pinned by default



- Linking to specific results on the circularity or environmental tab

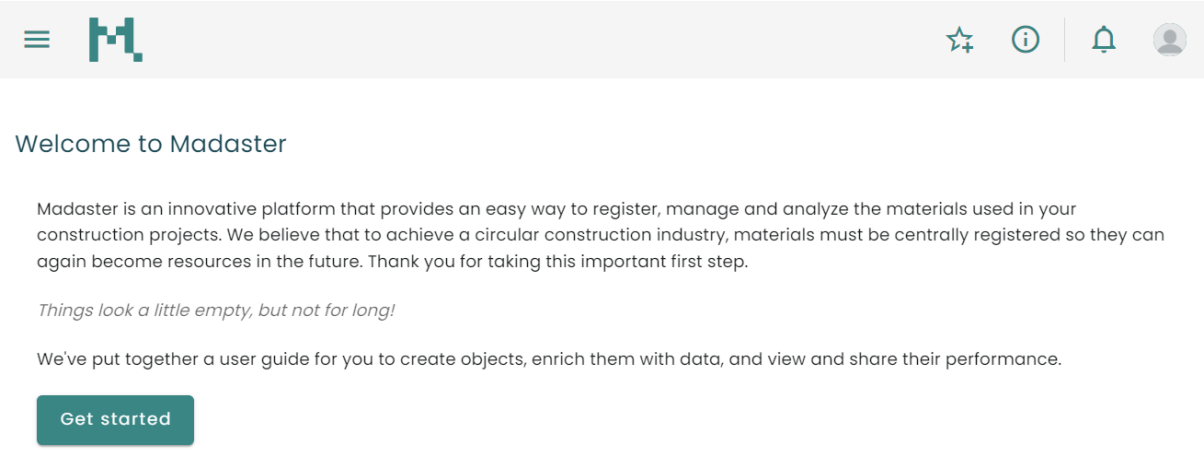
It is now possible to copy an URL that contains the specific filters on the circularity or environmental tab.



- Users with regular authorizations will no longer see the user tab

- The option to create a design or archive a building have been removed for home-owners

- When a user enters the platform with no recent items on ‘my dashboard’ a welcome text is shown:



2.3 Bug fixes

The following bugs have been resolved:

- When transferring a building the authorizations on the transferred building were set wrong, this has been adjusted so that the authorizations are set correctly on the transferred building.
- Rounding has been adjusted so that for example 2 kt of CO2e as displayed on the performance tab for GWP can now be displayed with two decimals (i.e. 1,7)
- In the mass tab of a building at ‘unknown’ the values would sometimes incorrectly be ‘0’, this has been fixed.
- When creating a new design the notification when this design is ready would mention that the archive was ready. This has been fixed so that it correctly mentions design.
- Deleting a design would mention that the whole building would be deleted where it would only delete the design, this has been textually adjusted so that it mentions only deleting the design.
- We found some wrong mappings in the Omniclass classification, these have been corrected.