CIRCULAR ECONOMY

Report on Gebr. De Nobel

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“Gebr. De Nobel is a sustainable and circular pop venue. What about its future? Can Gebr. De Nobel function as the green heart of Leiden, a suburb in the city of Amsterdam?” – Ruud Visser, Director of Gebr. De Nobel.

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1. Executive Summary

The aim of this report is to increase and improve the circularity and publicity of the circularity of Gebr. De Nobel, a concert venue in Leiden. Throughout this project, five different assessments were conducted:

- An assessment of the ***existing sustainability and circularity measures*;**
- An assessment of ways ***to improve the sustainability and circularity measures***;
- An assessment of the ***venue's current usage of energy***;
- An assessment of ***ways to occupy empty spaces*** in the building when the venue is not being used;
- An assessment ***to improve the marketing and communication strategy*** with respect to the venue's sustainability and circular challenge.

The report will provide various recommendations for the improvement of sustainability such as the installment of water-free toilets and a green roof to make Gebr. De Nobel more circular. The energy was mapped to provide a more comprehensive understanding of the energy consumption in the building and possible improvements were suggested to decrease the energy consumption. The report also provides a list of stakeholders to connect Gebr. De Nobel to different parties, which may be in need of space and willing to become a part of Leiden's circular puzzle through a collaboration with Gebr. De Nobel. Finally, the report will provide an elaborate marketing plan, which includes a marketing video to present the audience with a better overview of Gebr. De Nobel's efforts to be as sustainable and circular as possible.

2. Introduction

In this report, we are going to assess the sustainability and Circular Economy practices with respect to a very popular concert venue: Gebr. De Nobel, which is located in the heart of Leiden. In this establishment, several performances of musicians take place every weekend, attracting hundreds of visitors. In addition to organizing music performances, Gebr. De Nobel is also very successful in considering environmental repercussions of their practices. The director of Gebr. De Nobel, Ruud Visser, is very conscious of the venue's impact on the environment and has already applied several sustainable and circular measures in and around the building.

2.1 Our main goals in research

Our group received the challenging task to assist Ruud by mapping out the sustainability and Circular Economy possibilities with consideration of the following research questions: 'How can we increase the circularity of Gebr. De Nobel?' and 'How can we improve public's knowledge of Gebr. De Nobel's efforts in sustainability and circularity?' We took upon this challenge creatively and divided our research according to the following areas of focus:

- An assessment of the venue's existing sustainability and circularity measures;
- An assessment of ways to improve the sustainability and circularity measures;
- An assessment of the venue's current usage of energy;
- An assessment of ways to occupy empty spaces in the building when the venue is not being used for regular concerts in the evenings;
- An assessment to improve the marketing and communication strategy with respect to the venue's sustainability and circular challenge.

In the following section, we will start with the assessment of the existing efforts on sustainability and circularity. Within this section, we will also assess possible improvements to increase the venue's sustainability and circularity. In section 4, we will provide an energy assessment. Section 5 will display an overview of possible ways to fill the rooms of Gebr. De Nobel when the venue is not in use for regular events. In section 6, we will study opportunities to advance Gebr. De Nobel's marketing and communication strategy for its sustainability and circular challenge. The report will end with a conclusion of our findings.

3. Existing sustainability and circularity measures and how to improve them

First of all, we will discuss the venue's existing sustainability and circularity measures in section 3.1. In section 3.2, we will study ways to improve these measures.

3.1 The existing sustainability and circularity measures

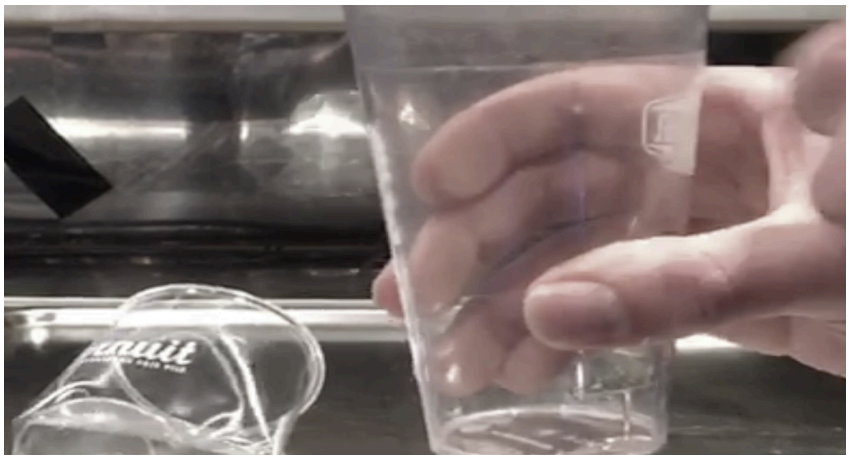
Gebr. De Nobel has already taken several measures in sustainability. An overview of the venue's most important measures is:

1. Use of reusable hard plastic cups;
2. Implementing solar panels on the roof;
3. Having a gold energy label.

In the following paragraphs, we will explain these three measures separately.

Plastic cups

Usage of reusable hard plastic cups is very uncommon in nightlife. Whereas most pop venues serve their beverages in regular plastic cups that are thrown away after single use, Gebr. De Nobel uses a special type of hard plastic cups (Picture 1). The hard plastic ensures that the cups cannot break and can be easily collected and reused after an event.



Picture 1: 'Hard' plastic cups being used in Gebr. De Nobel.

Solar panels and energy

Second of all, the roof of Gebr. De Nobel consists of various solar panels. These solar panels generate the majority of the energy that is used by Gebr. De Nobel (Picture 2). The remaining required energy is generated from wind energy. The discussion of the energy being used will follow in section 4.

Picture 2: Solar panels on the roof of Gebr. De Nobel.

Thirdly, and in line with the argument made above, Gebr. De Nobel has been approved with a so-called gold energy label. A Gold Standard Renewable Energy Label is a quality attribute for renewable electricity market instruments, which are also known as renewable energy certificates (RECs). These market instruments are tradable, non-tangible energy commodities that represent proof that 1 megawatt-hour (MWh) of electricity has been generated from an eligible renewable energy resource (renewable electricity) and has been fed into the shared system of power lines which transport energy (*Goldstandard, 2019*).

3.2 Ways to improve the existent sustainability and circularity measures

In this section, we will study ways to improve the existent sustainability and circularity measures.

First, we would like to indicate possible improvements as suggested by employees of Gebr. De Nobel. These options are:

- Ban on the use of straws;
- Replacement of bottles of water backstage for (reusable) (for example: dopper) bottles;
- Use of LED strobes instead of the regular strobes;

- Replacement of all tape being used with Velcro and/or cable mats. At the moment a lot is being taped down for every performance, such as cables and drum risers;
- Use of a projector during meetings, in order to discourage employees from printing out the agenda items.

Secondly, we studied several specific long-term investments in nature and finance. We will discuss these investments one by one.

Green roof

A green roof has many economic, ecological and social benefits (*Oberndorfer et al., 2007; Sempergreen, 2019*). For example, a green roof ensures water retention, air purification, a lower ambient temperature, heat regulation, energy saving and biodiversity in the city. Green roofs are part of climate-proof construction. We will assess the economical and ecological benefits in what follows.

Economical benefits

Green roofs are initially more expensive than conventional roofs. However, green roofs can be more economically beneficial over the lifespan of the roof because of the savings in energy costs and the longevity of roof membranes (*Köhler, 2003*). One of the reasons for this is because a green roof offers protection against weather influences such as sun, rain, wind and temperature changes and could double the durability of the roof up to 60 years or longer (*Sempergreen, 2019*). On roofs with a lot of wind, overgrown vegetation mats ensure that the subsurface does not blow away during a storm. It offers a solid and erosion-resistant top layer of the green roof. Investments in green roofs will typically be earned back within 8 to 21 years. The natural and sustainable appearance, in combination with a reduction in energy costs and an extension of the life span of the roof, will result in an increase in value of the building. With vegetation mats a green roof with a direct green result will be created. The mats are carefully pre-grown and 90% covered upon delivery. This means there is hardly any room for weed growth and the required maintenance is minimal. In contrast to the loose planting of plug plants, the installation of a green roof with the help of vegetation mats can be realized easily and quickly. Maintenance afterwards is also minimal. A green roof lowers the temperature on the roof. Because of this cooler roof, the efficiency of solar panels is higher

and it reduces the energy costs. It ensures a better use of the solar panels when implementing green roof (*Scherba, et al. 2011*).

Ecological benefits

A green roof absorbs rainwater through water buffering in the plants, substrate and drainage. It delays the drain to the sewer, purifies the rainwater and ensures evaporation through the plants. By doing so, the groundwater level remains stable, the peak load on the sewer is reduced and the resulting flooding is reduced (*Sempergreen, 2019*). The plants of a green roof filter fine dust from the air and convert CO_2 into oxygen. A green roof contributes to the purification of air (*Oberndorfer et al., 2007*). Green roofs also decrease ambient temperature. Plants absorb sunlight; roughly said sunlight is 50% absorbed and 30% reflected (*Sempergreen, 2019*). This way a cooler creates a more pleasant climate. For the indoor climate, this results in less use of the air conditioning service. This has an additional positive effect on the heat in the city on the climate outside the building. It achieves a temperature reduction of 3°C in the city. A green roof works as a sound barrier to the building. It absorbs sound and provides more environmental peace, both inside and outside the building (*Oberndorfer et al., 2007*). It also helps the building become more insulated (*Niachou, et al. 2001*). The sedums, herbs, grasses or host plants that are incorporated in a green roof promote the living environment of birds, butterflies and insects, especially in the city where there is mostly stone.

Water free toilets

Water free toilets and waterless urinals basically use the same science. Urine flows past the bowl of the urinal past a debris-catching sieve. The urine then passes through a sealing fluid, usually a specially designed oil-based fluid or simply vegetable oil, and collects in the drainpipe below. Where regular toilets can consume up to 5.5 liters of water when fully flushed, the water-free toilet does not consume any water (*Hills, et al. 2002*). This is therefore a very good sustainability measure. Also in terms of finances, the water-free toilet is quickly recouped faster than the green roof (*Cleantotaal, 2019*).

An ordinary urinal uses 4 to 5 liters of water to flush. If a urinal is used 15 times per hour for 2,500 hours per year (50 weeks, 50 hours per week) then the consumption is approximately 187 m^3 of water per year (*Cleantotaal, 2019*). Water-free urinals do not use any water and therefore save that amount of water and that results in approximately €420 per year. A normal

urinal costs around €230, the water-free version between €250 and €350 excluding assembly costs (*Cleantotaal, 2019*). This means that the investment in the toilet could be recovered within one year. Research also shows that the maintenance costs of an anhydrous urinal net are lower than those of a traditional urinal (*Cleantotaal, 2019*).

Now that we have discussed the existent sustainability and circularity measures and have elaborated on ways to improve these, we now turn towards the next section: an assessment of the energy consumption.

4. Energy assessment

In this section, we will assess the energy consumption of Gebr. De Nobel, which we started on discussing in section 3.

After multiple evaluations and conversations with Ruud, we discovered that the energy consumption and accumulation (of the solar panels) were not mapped properly and that accessible information was lacking. The absence of readily available information was a serious obstacle on the road to a greener and more circular Gebr. De Nobel. Therefore, we decided to perform a rough energy assessment that would provide an overview of the venue's energy consumption. First of all, we contacted Harry Klein, the energy expert of Gebr. De Nobel. He provided us with his insight into the venue's energy consumption and the back charge of the solar panels. In the excel sheet enclosed to this report, we show our calculations (S. 1). Here below are a summary of our key findings. All calculations and graphs are based on the venue's energy usage in 2018.

4.1 Energy use

The total amount of energy used was 128.368 KWh excluding the 6.124 KWh that was charged back for an excess amount of energy of the solar panels. Giving a net usage of 122.244 KWh in 2018, this was the fall back number through which to control our calculations. After this contact, a list was provided with the entire electrical inventory. This list lacked the energy consumption of each individual device; therefore the data used for the calculations were derived from similar devices found on the Internet. Cables are considered to have no energy consumption because they are supposed to transfer energy; the amount of energy lost in this process is negligible. For the grand hall, a number of 10 hours a week was calculated where for the small hall 15 hours per week were calculated. The calculations showed a gap of 3.291 KWh which represents 2,7% of the venue's total energy usage in 2018.

4.2 Visualisation

We visualized the numbers in order to provide a clear overview of the figures. The graphs show that the grand hall is responsible for the largest share of energy consumption (50%) followed by the offices (36%) and finally by the small hall (14%). However, it should be

noted that the fridges and boilers of the building were considered within the energy usage of the offices. It is interesting to see that the grand hall only represents 12% of the surface area in Gebr. De Nobel whereby it is responsible for 50% of total energy consumption (figure 1 and figure 2). With the purpose of providing a comparative overview, we combined two graphs into a single image showing the surface distribution and the energy distribution together (figure 3).

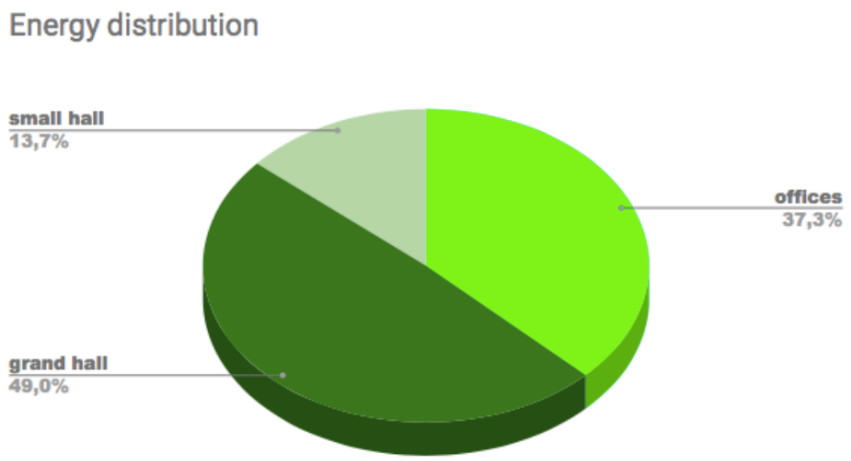


Figure 1: The energy distribution of energy in percentages per room.

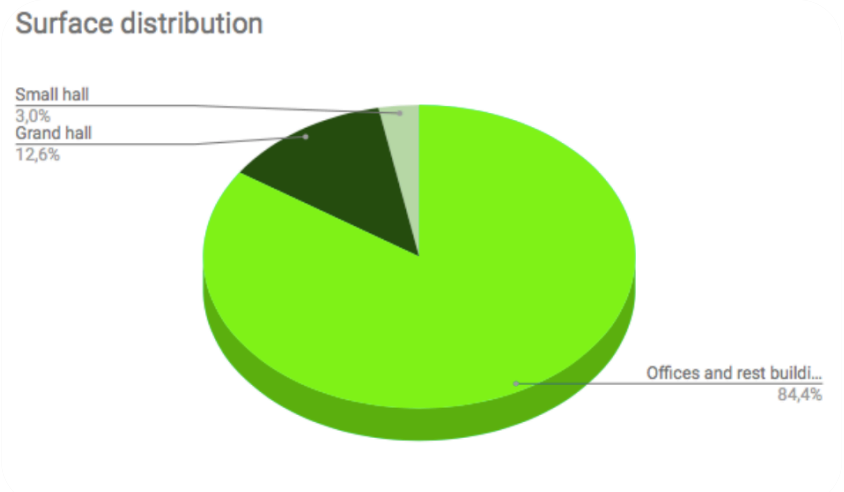


Figure 2: The surface distribution. The energy distribution of square meters in percentages per room.

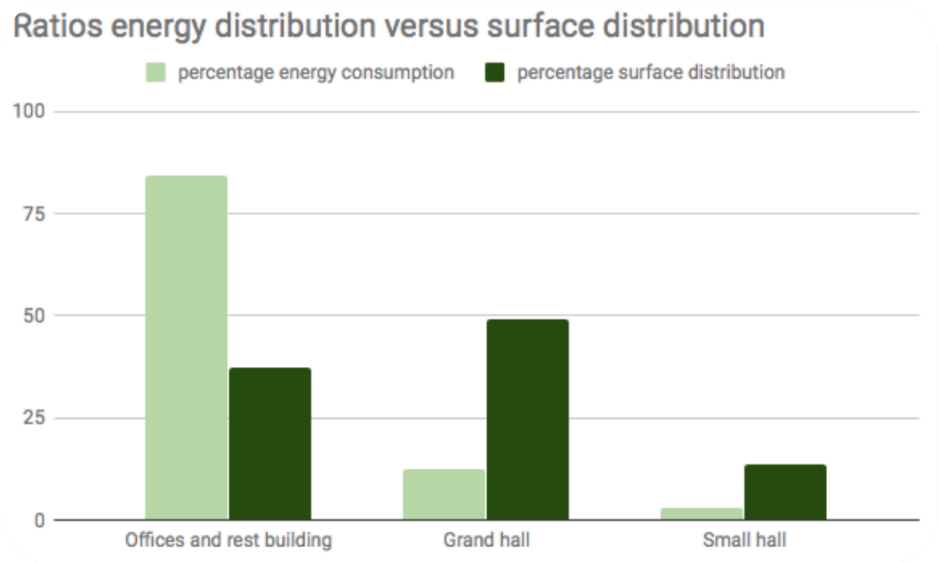


Figure 3: The ratios of the energy consumption and surface distribution.

For the office space a graph was made to show for what the majority of the electricity is being used (figure 4). It is interesting to see that despite the led lamps, still the largest amount of energy is used by light, based on the estimation of 6 hours being on per a day. Further a lot of energy is going to devices such as computers, fridges, boilers, freezers and the loading dock.

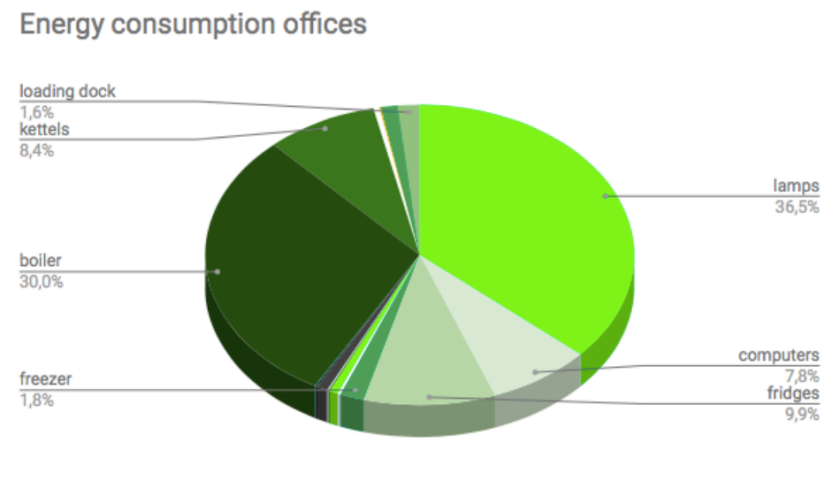


Figure 4: Energy consumption of the offices (overall energy usage of the building excluding the halls). Here it is visible that most of the energy consumed is via the led lamps and the boiler.

4.3 Light and sound energy consumption

For the halls, we expected that most of the energy was consumed by the lights. Against all expectations, the sound system accounted for the largest share of energy consumption in both halls. In order to gain a better understanding, we decided to visit a concert ourselves, where

we made observations confirming the result of our research. Throughout the concerts, not all lights were constantly in use in contrast with the sound devices that were continually on.

There is a large difference between the energy consumption of sound and light systems in both halls (figure 5). In contrast, the ratios of light and sound usage of both halls are nearly identical (figure 6). It must be noted that there was no inventory list of the lights in the small hall. Therefore, these numbers are calculated using the amount of energy consumed in the grand hall and the square meter ratio between the halls. Energy use of the sound system was calculated according to the inventory lists.

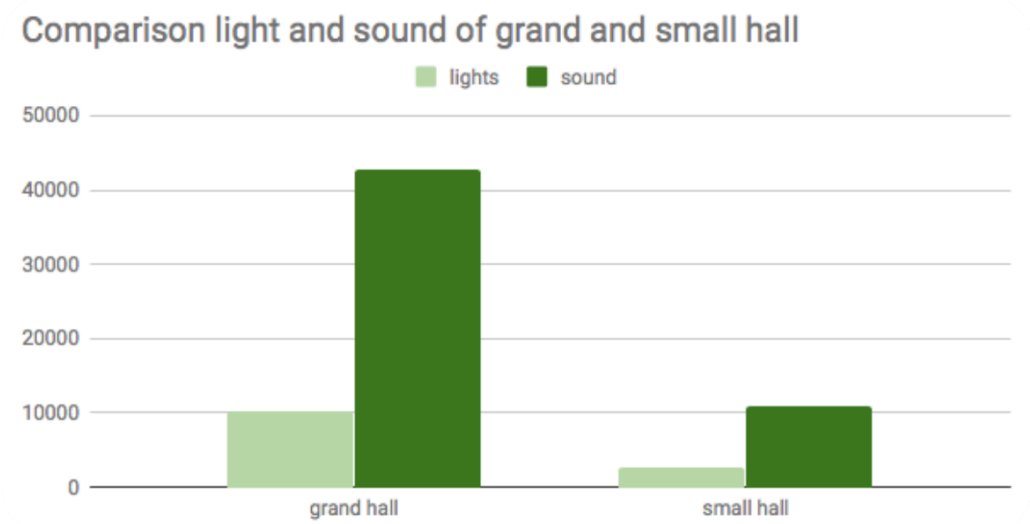


Figure 5: The comparison between light and sound. The amount of kWh is displayed for both sound and lights to visualize the energy distribution of both halls.

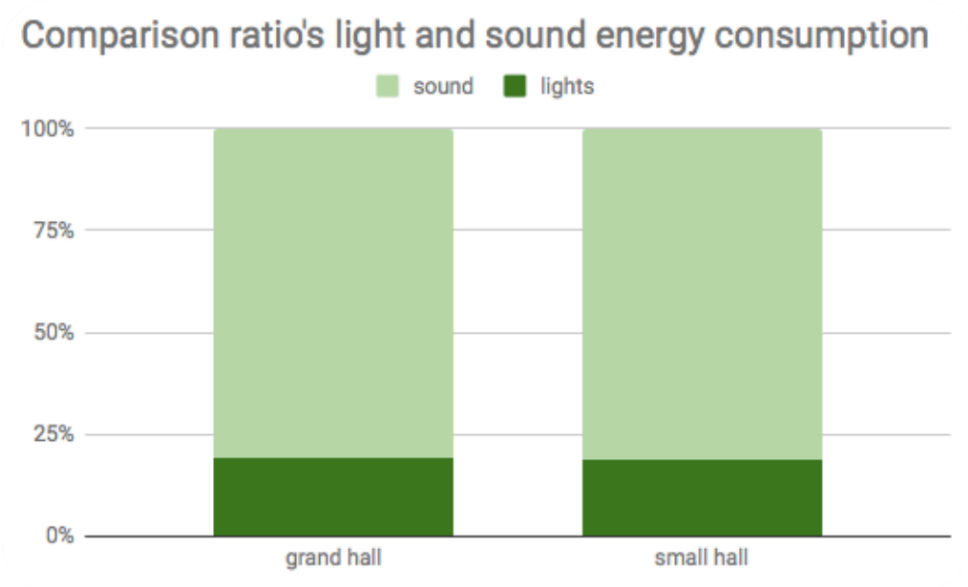


Figure 6: The ratios of light and sound. The ratio of the energy consumption is displayed for both sound and lights to visualize the energy distribution of both halls. It shows that the percentage light and sound is highly similar.

4.4 Recommendations

With respect to the future, we would like to give some recommendations for improvements. To decrease the energy consumption and to get a better view of it, multiple measures can be taken. First off all, an energy meter can be placed and be linked to solar panels, to give a better insight in the energy yield. This yield can be improved in the summer by the conversion to a green roof to thereby save the return lost by the high temperatures of the panels and the roof.

Also smart energy meters can be placed to several devices such as the kettles, boilers and the loading dock, to get a better view into the energy consumption of all widely used materials. So we suggest implementing smart energy meters devices to provide a better and more detailed view on the energy consumption.

We also suggest replacing the devices by more sustainable ones when reached their end of lifetime. Still, for some devices this may prove to be difficult. For example, music and light equipment for the halls is mostly focused on the performance rather than the energy usage. Hopefully the industry will focus more on efficient energy usage in those devices.

5. Filling the 'gaps'

In this section, we will elaborate on the facilities the building of Gebr. De Nobel can offer from the perspective of circular urban planning.

5.1 Capacity

Gebr. De Nobel has the capacity to accommodate 950 visitors divided between two rooms (max. 200 and 750), which means that the venue represents a perfect space for various types of events for smaller or larger groups of people in case of Gebr. De Nobel is not hosting its own events. Occupying the venue more often would not only make the venue more circular, but also it would contribute to Leiden's circularity by compensating for the shortage of available urban space, and by preventing the construction of new venues. Occupying existing spaces also decreases the usage of materials and energy, and encourages a more circular type of urban planning.

Buildings in urban settings are often underutilized; however, this can be prevented through shared use of buildings, new business models, and reconfigurable interior design for multiple purposes. Design features can enable a greater use of space, such as moving walls that allow users to repurpose spaces, as the venue is needed for various types of events.

5.2 Connected city

In their report on "Planning for Compact, Connected Cities," the Ellen MacArthur Foundation identifies *putting vacant buildings into use* as a strategy to enhance the creation of a circular economy in urbanized settings (*2015, p. 83*):

- **Around Europe** approximately 60% of total office space is vacant during working hours (*Ellen MacArthur Foundation*, *2019; OECD, 2018*). While the exact percentage is unavailable for concert venues in particular, it is safe to assume that the percentage would be even higher among venues for night-time events;
- **Concert venues** that are closed during the daytime have valuable, but underutilized space. Such space can be used as a co-working space benefiting both the venue (through extra revenue) and people in the need of space for meetings or events (with cheaper rent or improved facilities);

- **Long-term objective:** Our long-term solution would be the development of a mobile app for Randstad area, which would act as a platform that connects empty spaces (concert venues, restaurants, bars etc.) with event organizers or companies that are searching for space. An example of such a platform is the US start-up *Spacious* that connects restaurants that are empty during daytime and customers in need of space (Ellen MacArthur Foundation, 2019). Another long-term solution would be investment into the creation of "multi-purpose spaces for multiple uses" through use of creative interior design features such as moveable walls in order to allow for the use of available space for as many different events as possible (Ellen MacArthur Foundation, 2019).
- **Short-term objective:** We could place Gebr. De Nobel in the center of Leiden's circular puzzle by advertising it as an optimal venue for organizing daytime events (if desirable, see section 6).

5.3 Programming

Gebr. De Nobel's programming is concentrated around concerts that mostly occur in the evenings. The venue is now actively used on average 4 days a week, between 6pm and 12pm. Considering the building opens at 9:00, that means:

- **On a weekly basis:** (3 days (Monday-Wednedsay) x 15h (09:00-00:00)) + (4 days (Thursday-Sunday) x 9h (09:00-18:00)) = 81 hours of unused space every week.
- **On an annual basis:** 81h x 52 weeks = 4.212 hours of unused space every year.

5.4 Stakeholders

We decided to create a list of stakeholders that can be valuable in the future, and whom Gebr. De Nobel could potentially collaborate with in order to organize events in case of Gebr. De Nobel not hosting its own events. We made the first contacts with these stakeholders and will provide their contact information as follows.

Gebr. De Nobel's perspective: In the beginning of our stakeholder mapping (as follows), we have analyzed relevant events organized by Leiden University's student organizations, Leiden municipality and other organizations based in Leiden within the past year. For each event, the report also includes recommendations to use the venue more efficiently according to the type of event in question. For example, when we contacted Leiden University's event planning

team, we learned that they are in need of conference space. For this stakeholder, sound-cancelling division of rooms and the ability to both accommodate a larger group (200 people) and also create space for discussions among smaller groups of participants (50 people) is important.

Stakeholder's perspective: In our analysis (as follows), we will also make a list of advantages of using Gebr. De Nobel for that particular stakeholder. For example, for the student organization, El Cid Committee, becoming green has become one of their focus areas. For this stakeholder, we would recommend the use of our promotional video (see section 6) to convince them of Gebr. De Nobel's sustainable qualities. For daytime events focusing on musical performances, it would be recommended to emphasize the quality of sound systems available. For Leiden University's event planning committee, budgetary advantages compared to other venues in Leiden, and the venue's proximity to the train station could be presented as a plus point.

Stakeholder mapping

During our analysis, we have identified students and the elderly as our two main groups of audience. 37.9% of Leiden population is between ages 12 and 34. Those aged 55 and above, form 25.8% of the city population (*Urbistastics, 2019*). There is also a large student community due to Hogeschool Leiden, mbo Rijnland and Universiteit Leiden. Here below is a list of organizations we identified for each of the two groups, information of different types of events each group organizes, and reasons why Gebr. De Nobel would be the ideal location for each organization (figure 7).

Name of organization & Relevant events:	Why Gebr. De Nobel? Issues to be considered?
AUDIENCE: ELDERLY	
GEMEENTE LEIDEN **With the rising level of attention towards care of the elderly and increasing interest in organization of social activities for the elderly, contacting the municipality for partnerships around this topic would be ideal. Social events (sports lessons) or career/networking events for the elderly could be suggested as options.** **<u>Contact</u>: Karin Fahner, Senior sport en gezondheid at Gemeente Leiden**	**Daytime availability** unoccupied space in Gebr. De Nobel in daytime would be ideal for events around the elderly. **Accessibility** of Gebr. De Nobel for wheelchairs or visitors with limited physical ability would be a topic of discussion. **Proximity** to the train station. The venue is only 600 m (2 minute walk) away from Leiden Central Station.
Leyden Academy ON VITALITY AND AGEING **Leyden Academy on Vitality and Ageing organizes research, projects, and initiatives, which are put into practice to produce positive social impact by adding value to the lives of the elderly.** **Silver Starters Programme (Fall 2019): In the fall of 2019, the organization will launch an educational start-up programme with seniors. Piloting in the Netherlands and Poland, the programme will be open for about 80 participants. The program will consist of eight-week long in-person and online lessons.**	**Daytime availability** (same as above) **Accessibility** (same as above) **Proximity** (same as above) **Suitability for lectures** Leyden Academy focuses on large-scale educational events for the elderly and Gebr. De Nobel has ideal occupancy rate for both large classes (Main Hall) as well as smaller workshops (Small Hall, divided into sections).

Contact: Ineke Vlek (Project manager) at eithealth@leydenacademy.nl.	
AUDIENCE: STUDENTS, ACADEMIA	
Universiteit Leiden **Bachelor's open day: An annual event organized in the first weekend of October between 09:00 - 17:15, in order to introduce various study programmes to high school students (ages 15-18).** **Master's open day: An annual event organized in the first weekend of March between 09:00 - 17:15, aimed for current bachelor students (ages 18-25).** **Dies Natalis** **Academic conferences** **Walk-in concert series which are currently organized in Academiegebouw, there would be a possibility to negotiate an end-of-year concert in Gebr. De Nobel.** **Dutch National Student Orchestra (NSO) Concert usually organized in Stadsgehoorzaal.** **Contact: Mirella Imthorn, Projectleader Evenementenbureau Universiteit Leiden, Tel: 0031 (0)71 5273135**	**Proximity** to the train station can be a valuable advantage for both bachelor's and master's open day events. **Cost efficiency** in contrast with Pieterskerk or other historical locations, Gebr. De Nobel can be presented as a less expensive alternative. **Availability of advanced sound/lighting equipment** could be suggested as the venue's advantage for walk-in concert series and the National Student Orchestra (NSO) Concert. **Sound cancelling through room-dividers** would be a point of discussion for academic conferences. Mrs. Imthorn mentioned the importance of having smaller rooms for group workshops and the problem of noise when the conferences are organized at large venues. **Facilities for presentation** Availability of large screens, whiteboards and seating should also be considered when negotiating for academic conferences.

Orientation Week Leiden occurs during weekdays when Gebr. De Nobel has more availability compared to weekends. The events go on from 10am until midnight and centralizing them in one big location as a festival ground can be preferable. **ISN Cultural Festival is already organized at a similar concert venue, Scheltema, which is across the street from Gebr. De Nobel.** **Contact: board@isnleiden.com, +31 7 1527 7973**	**Efforts in sustainability** ISN Leiden is currently trying to promote itself as a more sustainable organization so promoting Gebr. De Nobel as a green venue (especially in comparison to Scheltema) can be useful when reaching out to ISN. **Centralization of events** For multi-event festivals, promoting Gebr. De Nobel as a compact festival ground can be useful. **Trendiness** As ISN's activities concentrate around younger generations and going-out culture, Gebr. De Nobel should be promoted as a trendy place-to-be.
EL CID COMMITTEE (STUDENT ORGANIZATION) **El Cid Week which is the orientation week for Dutch students.** **Contact: Emma Klaassen, voorzitter@elcid.leidenuniv.nl, +31 71 527 7984**	**Efforts in sustainability** El Cid committee is currently trying to become greener, our promotional material for Gebr. De Nobel as a sustainable venue can be useful. **Centralization of events** (same as above) **Trendiness** (same as above)

Figure 7: Stakeholder mapping

6. Marketing and Communication Strategy

Until now, we studied to what extent pop podium Gebr. De Nobel uses sustainability and circularity practices and fulfills a particular role to contribute to the Circular Economy. Moreover, we studied whether Gebr. De Nobel can improve on these practices and proposed various ways to do so.

Now, we take a look further and investigate to what extent Gebr. De Nobel translates these practices into being prominently visible with respect to sustainability and the ideas of the Circular Economy. Does Gebr. De Nobel acts as a green podium? Do visitors experience the presence of the green practices? To what extent does Gebr. De Nobel take a leading role in sustainability? Questions like these will be answered. We will study the practices of Gebr. De Nobel through the eyes of the public while looking for existing practices to make visitors aware of its actions to be sustainable and the importance of the Circular Economy and study manners to improve these actions to create more awareness for the visitors. We will do so by assessing the building itself, by looking at its website and its social media. But first, we will start overviewing the role Gebr. De Nobel would like to take within the 'greening' trend.

6.1 The Role of Gebr. De Nobel

Before turning to an assessment of the visibility of Gebr. De Nobel with respect to sustainability and the ideas of the Circular Economy, it is very important to study the role Gebr. De Nobel would like to take.

Sustainability is a topic often heard these days. As becomes clear from an article by University of Oxford (2018), more and more big companies commit to addressing environmental impacts. It can therefore be expected that smaller companies will follow to keep on track with the bigger ones.

However, this relationship may not seem that crystal clear when it comes to Gebr. De Nobel. In our first meeting with Ruud, he emphasized the importance of a Circular Economy and sustainability. As shown in this report, Ruud has done a lot of green practices to contribute to a greener world. In the future, he would even like to see Gebr. De Nobel as a center of sustainability.

However, a nuance should be made here. This nuance can be studied along the ideas of the product life-cycle management figure (*Day, 1981*). A product needs time to get explored by trendsetters (the introduction/invention phase). Afterwards, the great public will get to know the product and start to buy it. At a certain time, the sales will stabilize, as the main public has been involved in the sales. Then, when new things are invented, the product will be discarded and sales will decline.

These ideas are exactly the concern of Gebr. De Nobel. On one side, Gebr. De Nobel would like to be at the introduction/invention phase when it comes to being the greenest and most sustainable public institution in the area of Leiden and being more advanced than other pop podia in the world. However, at the other side, Gebr. De Nobel also wants to be careful with introducing the greenest practices and want to wait a little until the growth phase or even maturity phase kicks in. This has all to do with the audience: the public Gebr. De Nobel serves. As Ruud tells, the main public and also main artists may still not be ready for all greening progress. What if Gebr. De Nobel innovates too fast? Will it lose visitors because of the fact that they simply don't want to go for a party in a 'green/hipster' podium?

And this is where the fear of Gebr. De Nobel lies. Ruud believes there is a point in going green where Gebr. De Nobel should be very careful to cross, because greening can go too fast and affect ticket sale. On the other hand, much public are young adults, who can make the difference with respect to sustainability. Gebr. De Nobel could take role model, where visiting can inspire young adults.

So, to conclude, Gebr. De Nobel therefore wants to be front-runner, but does so with much caution to not cross a point whereby ticket sale may be negatively affected. Through this perspective, we are going to assess the visibility of Gebr. De Nobel with respect to sustainability and the Circular Economy.

6.2 The building

The building in itself is very nice and modern. For employees, it is crystal clear that sustainability is important to Gebr. De Nobel. Examples of these are the solar panels and the automatic switch off of lights due to sensors. But, to what extent do visitors experience sustainable practices in Gebr. De Nobel?

We took the role of visitors for an evening, as we already pinpointed in section 4.3, and went to an event held in Gebr. De Nobel. Our experience started already outside, where we saw the following promotion:

Picture 3: Pin only.

This picture shows that Gebr. De Nobel from now only accepts pin payments and thereby no longer accepts payments by coins. This is a form of a reduction of plastic. Gebr. De Nobel could have taken this practice as an opportunity to promote this as a sustainable action, however they choose to not do so.

With respect to the inside of the building, Gebr. De Nobel does not make much promotion of sustainability and their sustainable practices. We saw more promotion like Picture 3, but more presented in an informal manner than in a persuasive with respect to sustainability. We ordered a few beers, which are, as explained, filled in glasses of more durable plastic than normal plastic. Again, visitors would not experience this practice as a way forward to sustainability. It may be even possible that it would not be noticed. By looking around in the main entrance and at the podium we did not find special marketing with respect to sustainability.

So, regarding the building, as a visitor you will not experience a feeling of circularity or sustainability being inside. Gebr. De Nobel could, if it would like to become a role model as discussed in section 6.1, promote its practices. Inform the people by posters, or for example by photos or videos on screens about the practices. Show visitors why there are solar panels; why there are only cash payments possible, etc. etc. If Gebr. De Nobel really wants to make its visitors aware of its practices, or sustainability in general, more promotion would be necessary.

6.3 Green advertisement

One way to do so is by creating a logo for events that are in line with the ideas of the Circular Economy. We created one, as can be seen in the following picture:

Picture 4: Logo Greennobel.

We thought of using another name for Gebr. De Nobel, 'The Greennobel', when doing events by which sustainability and the Circular Economy play an important role. Of course, this name can also be used for events described earlier to fill the rooms when not used for events already organized by Gebr. De Nobel. With respect to marketing, using another name of the location and another logo can really make a difference (*Park et al., 2013*).

Moreover, we created a promotion video of the Greennobel (which will be enclosed to this report):

Picture 5: Video Greennobel.

This video can be shown in Gebr. De Nobel as promotion for events organized by Gebr. De Nobel itself with respect to sustainability and the Circular Economy, but also as a promotion for other companies, organizations or individuals to organize circular events in Gebr. De Nobel as described in section 5.

Besides, the logo and the video can be used on the website and in social media as promotion material. The rest of this section will study the website and social media.

6.4 Social media, website and e-mail

Gebr. De Nobel uses various canals to communicate with its visitors. Here, the same holds as for the building: more promotion of sustainability is possible. To improve this communication in a more sustainable and circular way, we thought of the following ideas:

- **With respect to the website** the website does not provide any information or promotion about sustainability or the Circular Economy. Gebr. De Nobel could create a link on its website to another website called 'The Greennobel'. On that website, it can promote its sustainable practices and can become a forum for other sustainability projects. Via this website, it can really take the leading role in Leiden.
- **With respect to the social media** Gebr. De Nobel is mostly active on Instagram and Facebook when it comes to social media. The sustainability and circularity practices of Gebr. De Nobel can also become more visible here. It can for example provide links to the website of 'The Greennobel', upload photos and videos about

sustainability practices in Gebr. De Nobel but also other nice projects in for example other parts of Leiden.

- **With respect to e-mail** in every e-mail sent, a request not to print the e-mail for sustainability considerations can be added. Moreover, as explained above, every e-mail externally sent can include a link to the website of 'The Greennobel' or even a link to the green promotion video.

6.5 Conclusion

Gebr. De Nobel is still searching for ways to express its sustainability and circularity practices. The venue would like to take a leading role, but does not want to scare off its existing audience. In a way to allow for a trade-off, we made several suggestions regarding the visibility of its sustainability practices with respect to the building as well as its usage of social media platforms, website and e-mail. In addition, we took action on two suggestions: we created a logo for the venue's sustainability and circularity practices as well as a promotional video.

7. Conclusion

In this report, we studied the sustainability and circularity practices of Gebr. De Nobel and consulted the venue on its way forward. With regard to the improvement of existing efforts, there are a number of small measures that Gebr. De Nobel can pursue in order to achieve a more sustainable building: ban the use of straws, replace bottles or water backstage for (reusable) dopper bottles, use LED strobes instead of regular strobes, replace all tape being used for Velcro and / or cable mats and use a projector during meetings, so that not everyone prints out the agenda items. A literature review also revealed that investing in a green roof and water-free toilets would be both ecologically and financially beneficial to Gebr. De Nobel.

With regard to energy consumption, our research showed that the grand hall is responsible for the largest energy consumption (50%) followed by the offices (36%) and at last the small hall (14.0%). Interestingly, the sound systems use more energy than the light systems. It is recommended to use energy meters for the equipment that uses a great amount of energy; this would enable the venue to consistently map out its energy consumption. We also advice the venue to replace broken devices with more sustainable variants after end-of-life of those devices. Furthermore, we urge Gebr. De Nobel to enable other organizations or community members to put available spaces in the building of Gebr. De Nobel into use, when the venue is not hosting its own events. We concluded that the halls are unused approximately 4,212 hours per year. From a circular urban planning perspective, this presents an opportunity to use the available spaces more efficiently. The report provides a list of organizations that can be contacted to fill the spaces for a wide range of activities. In addition, it is also important that the venue uses a creative marketing and communications strategy in order to raise awareness of its efforts in sustainability. Therefore, we recommend putting an emphasis on sustainability and circular practices via social media, the website and the e-mail signature. Finally, we have already brought two of our suggestions to life: we created a new company name, made a logo and also created a promotional video.

We would like to thank Ruud Visser for his enthusiastic participation in this project. We sincerely hope this report can help him and the Gebr. De Nobel team with their plans in the nearby future.

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