

La Caserne de Bonne, Grenoble

La Caserne de Bonne, 格勒诺布尔



ABOUT THE BUILDING

Our building is a shopping centre located in a special urban development zone called ZAC de Bonne, within the city of Grenoble, in France. This special development area is France's leading eco-district. The building, built in 2010, forms part of the spectacular reconversion of a former military brownfield site into a mixed-use district comprising offices, housing, a student residence and a hotel.

This "urban recycling" development project, with high environmental aims, has been selected as the pilot project for the EU's Concerto initiative.

The 19,935 m² shopping centre is made up of five buildings:

- Building A, also known as the "bioclimatic hall", comprises retail space and offices on separate floors (including the centre management's offices)
- Building B consists of ground-level shops and office space on upper levels
- Building C, the renovated former army barracks, comprises shops on the ground floor with housing on upper levels, as well as the security centre
- Building D comprises retail space over three floors and an office platform.
- Building E consists of ground-level shops.

The shopping centre is located at the heart of this new district. It is a place for shopping, leisure and walking, with 4.5 hectares of dedicated green space. La Caserne de Bonne comprises around 50 stores and restaurants, including retailers such as organic food brand Naturalia, Nature & Découvertes, which offer natural products and services, and ethical clothing brand Modetic (for more details click here). The centre belongs to Mercialis, which owns around 60 shopping centres mainly located in the south of France. At December 31, 2014, the market value of Mercialis' property assets was Euro 2, 5 billion.

大厦信息

我们的建筑是一个购物中心，位于在法国格勒诺布尔市一个名为ZAC de Bonne的特别城市开发区。该特别开发区是法国领先的生态区。该建筑建成于2010年，是前军事棕地大规模重建成综合区工程的一部分，该综合区包括办公楼、住房、一栋学生住宅和一个旅馆。

该“城市更新”开发项目，环境目标高远，已被选为欧盟的协奏曲倡议的试点项目。

该购物中心面积为19,935 m²，由五栋大厦组成：

- A栋，也被称作“生物气候大厅 (bioclimatic hall)”，包括分别位于不同楼层的零售店和办公室（包括中心管理办公室）
- B栋地面层为店铺，以上楼层为办公室
- C栋，由原军营改造而成，包括地面层的店铺，地面层以上楼层的住房和安保中心
- D栋包括三层楼的零售区和一个办公平台
- E栋由地面层的店铺构成

该购物中心位于新区的核心位置。设有4.5公顷的专用绿色空间，是一个购物、休闲和散步的地方。La Caserne de Bonne由大约50个门店和参观构成，包括零售店，如提供天然产品和服务的有机食物品牌Naturalia、Nature & Découvertes，民族服装品牌Modetic。该中心为Mercialis所有，Mercialis拥有约60家购物中心，这些中心主要位于法国南部。2014年12月31日，Mercialis的物业资产市值为25亿欧元。



KEY BREEAM FACTS

- BREEAM version: BREEAM In Use International
- BREEAM score: 86% Part 1 / 98% Part 2
- BREEAM rating: Outstanding

GREEN STRATEGY

Mercialys' environmental approach consists in taking into account the environmental impact of its properties over their entire life cycle. Issues such as energy efficiency, water management, impact on biodiversity, environmental risks and integration into the landscape are factored in from the design phase onwards, ensuring:

- observance of bioclimatic architecture principles: orientation in relation to the sun and prevailing winds, compactness of the building, choice of materials etc
- connection to public transport links and existing cycle paths
- promotion of low-carbon means of transport: reserved car pool parking spaces, spaces equipped with recharging points for electric vehicles
- stormwater management with the creation of separate systems and the installation of green roofs or retention ponds to reduce water flows.
- These measures are then optimized during the construction phase using "tools" such as:
 - a carbon footprint assessment in order to reduce emissions by optimizing construction processes and transportation of building materials
 - the low environmental impact building site construction charter, ensuring the sorting and recycling of site waste, which may be re-used on-site, as well as reducing noise pollution
 - dynamic thermal simulations
 - environmental and health product declaration forms (FDES), allowing for the selection of low VOC (Volatile Organic Compounds) products.
- Additionally, in view of the life span of its properties, Mercialys pays particularly close attention to the environmental quality of practices used during the operational phase, such as:
 - dematerialized street marketing campaigns (no distribution of flyers to prevent paper consumption)
 - ecological management of green spaces, with changes to the contract in order to shift towards a zero phytosanitary product approach, but also to combat invasive species, favour indigenous plant species and protect bird nests
 - holding regular meetings with retailers to improve the centre's energy efficiency
 - using environmentally-friendly and labelled products to clean the centre
 - automatic control and monitoring of the centre's equipment
 - drawing up fire safety procedures that take account of environmental risks
 - customer-targeted communications to encourage them to practice car pooling.

Our company CSR policy requires the constant involvement of our teams in the environmental performance of our assets. We believe we have found in the BREEAM In-Use certification a valuable tool, due to its exhaustive framework, relevance and rigorous demands, to accompany their effort.

关键BREEAM事实

- BREEAM版本：BREEAM运营国际体系
- BREEAM分数：第1部分86%；第2部分98%
- BREEAM评级：杰出

绿色策略

Mercialys的环境保护方法将其物业在生命周期内对环境的影响纳入考虑。从设计到后续阶段，诸如能源效率、水管理、生物多样性影响、环境风险和景观一体化等问题均被纳入考虑，以确保：

- 遵循生物气候建筑原则：日照、盛行风与朝向的关系、建筑密度、材料选择等。
- 与公共交通网和现有自行车道的衔接
- 推广低碳出行：专用拼车停车位，设有电动车充电桩的空间
- 独立雨洪管理系统，安装绿色屋面或蓄水池以减少径流量。
- 施工阶段采用以下“工具”对这些方法进行优化：
 - 应用碳足迹评估方法，通过优化施工流程和建筑材料的运输来减少碳排放。
 - 低环境影响建筑现场施工执照，确保可现场具有再利用价值的现场废弃物得到分类和回用，同时现场减少噪音污染
 - 动态能耗模拟
 - 环保和健康产品申报表（FDES），确保选用VOC（挥发性有机化合物）含量低的产品
- 此外，鉴于其物业的使用寿命，Mercialys特别关注运营阶段环境质量的落地效果，如：
 - 减少街头推销活动（不再分发传单以防止纸张消耗）
 - 绿色空间的生态管理，变更合同条款，使之倾向于免疫产品方向，反对入侵物种，优先选用本土植物和保护鸟类栖息地。
 - 与零售商召开例行会议以提高中心的能源效率
 - 使用环境友好的和有环保标志的清洁产品
 - 中心的设备的自动控制和监测
 - 将环境风险因素纳入消防安全程序制定中
 - 针对性的与客户沟通以鼓励他们选择拼车出行

根据我们公司的CSR政策，我们的团队须不断地对资产环保性能进行评估。我们认为，我们已在BREEAM In-Use认证体系中找到了宝贵的工具来配合工作，这要归功于其详细的框架，中肯和严格的要求。

This virtuous dynamic needs to be maintained. Therefore, Mercialis has set itself the target of obtaining Outstanding BREEAM certification for at least 30% of its portfolio between now and the end of 2015. By choosing the highest level of certification, Mercialis' goal is to improve its operating practices significantly.

La Caserne de Bonne was an obvious first choice for Mercialis to seek certification on, given the outstanding conception of this centre - respectful of its environment, architecturally integrated and an integral part of the local urban environment. These characteristics together with the participation of our staff helped the centre to obtain the BREEAM In-Use certification in September 2014 at an Outstanding level. This sets a strong precedent to be matched by the rest of the assets to be certificated within the portfolio.

MAJOR ENVIRONMENTAL FEATURES

La Caserne de Bonne is a very environmentally efficient development as the result of an unparalleled approach to addressing its environmental impacts.

In terms of energy use, the centre was designed in accordance with the principles of bioclimatic architecture (favoring natural light, orientation relative to the wind, low-E glazing). It is also built in wood in order to benefit from the thermal inertia of the material. The shopping mall is neither heated nor air conditioned. It benefits from heat provided by the shops and from natural ventilation. All of these factors help to significantly reduce the centre's energy consumption, limited primarily to lighting. The centre's shops are provided with heat via the city's district heating system. Fresh air is supplied through a geothermal system, using a groundwater pumping mechanism. In the event of severe heat, an ammonia-based cooling unit is used to provide air conditioning for shops.

这种良性的变化态势需要保持。因此，Mercialis已为其自己设定了目标，即从现在至2015年末就其组合中30%的资产获得BREEAM认证杰出的评级。选择最高水平的认证，Mercialis的目标是为了显著改善其运营实践。

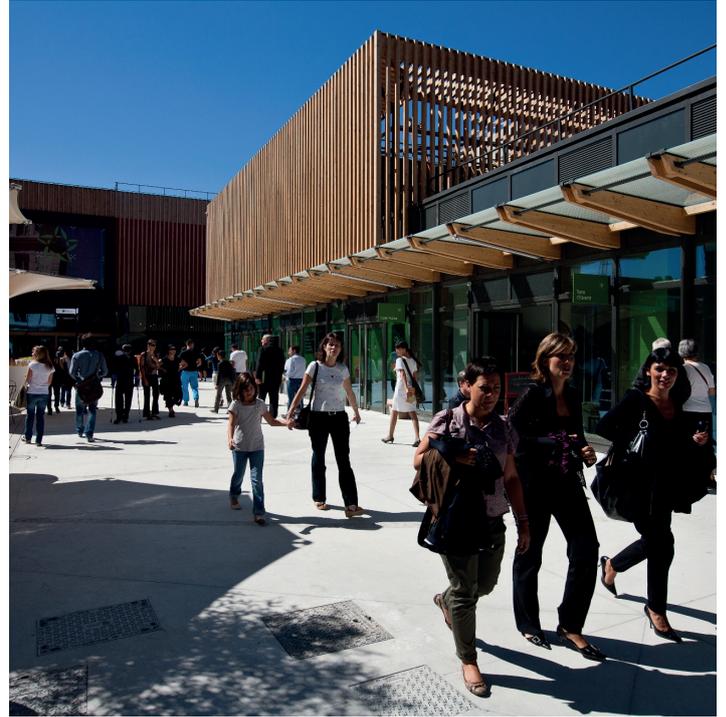
鉴于该中心优秀的理念，即尊重环境、建筑一体化和与当地城市环境融合，La Caserne de Bonne很明显是Mercialis寻求认证的首选。这些特征以及我们员工的参与有助于该中心在2014年9月的BREEAM In-Use认证中达到杰出水平。这成为其资产组合中的其它待认证资产看齐的典范。

主要环境特征

La Caserne de Bonne采用了无与伦比的方法来应对其环境影响，这使得其成为环境上最高效的开发项目。

在使用能源方面，该中心根据生物气候建筑原则设计（重视自然采光、风与朝向关系、低辐射玻璃）。其还采用木材建造，降低热损失。A栋购物广场既不需要供暖也不需要空调。这受益于来自各店铺的热量和自然通风。所有这些都有助于显著减少中心的能源消耗，尤其是照明。该中心其它栋商铺通过城市集中供热系统供热。新风则使用地下水水泵设施，利用地热能进行预冷预热。在极热的时候，则使用一个氨制冷机组为商铺供冷。





Cooling of shops is controlled by the Building Management System (BMS), and is only triggered if three conditions are met simultaneously:

- the outside temperature is more than 28°C
- pumps are working at their maximum speed for more than a quarter of an hour
- the difference in temperature relative to the groundwater loop is more than 1.8°C

The centre is also fitted with 1,000 m² of photovoltaic panels installed on shed roofs. A dynamic public display on one of the centre's walls allows for real-time monitoring of energy production. This is a way of raising awareness among visitors to the centre.

In terms of water management, the centre has been designed to minimize water consumption through its equipment, with waterless urinals, dual flush cisterns and pressure reducing valves. The BMS allows for real-time monitoring of the centre's water consumption. A warning is given if consumption reaches an unusual level.

Green roofs allow for the retention of rainwater and also limit wastewater pollution by avoiding runoff onto waterproof surfaces

Five types of waste are sorted for recycling at the centre

- non-hazardous industrial waste
- cardboard
- plastic
- lamps and bulbs
- wood pallets.

Green roofs are managed "ecologically" – no synthetic products are used to maintain the roofs and weeding is done by hand. This contributes to protecting biodiversity on the premises.

Finally, for a better air quality, the centre relies on natural ventilation. When carrying out works, tenants must use low VOC (volatile organic compounds) products (paint, adhesives etc.). The plant species chosen for the roofs also help to improve air quality.

对商铺的供冷由建筑管理系统（BMS）控制且只有在同时满足下述三个条件时才会启动氨制冷机组：

- 外部温度超过28°C
- 水泵以其最大速度工作超过一刻钟
- 与地下水环路的温差超过1.8°C

该中心还其单坡屋顶安装了1,000 m²的光伏板。中心的一面墙上设有动态公共显示屏以实时显示发电情况。这是一种引起访客关注的途径。

在用水管理方面，该中心通过其设备，包括无水小便器、双冲水箱和减压阀来最小化水消耗。该BMS可对中心的水消耗进行实时监控。如果水消耗达到异常水平则发出警报。

屋面绿化可以保持雨水，通过避免雨水流至防水表面而减少废水污染

五类废物在该中心被分类回收：

- 无害工业废弃物
- 纸板
- 塑料
- 灯具和灯泡
- 木栈板

屋面绿化从“生态角度”进行维护管理--不使用合成产品来维护屋面，且手工除草。这有利于保护项目的生物多样性。

最后，为了更好的空气质量，该中心采用自然通风。在开展工作时，租户必须使用VOC（挥发性有机化合物）含量低的产品（涂料、粘合剂等）。屋面植物品种的选择也有助于改善空气质量。

LESSONS LEARNED AND FUTURE PLANS

The BREEAM In-Use process of certification of La Caserne de Bonne has enabled improvements to be identified to procedures that can be replicated at other centres. Examples include taking greater account of environmental risks in fire safety procedures, perfecting occupant satisfaction surveys and optimizing facility performance.

Certification has also helped to draw specific guidelines on certain operations such as written procedures, helping ensure continuity of building performance in the event of a change in the company or team in charge of building management. Studies relating to the certification process have also been a rich source of information, particularly a health and wellbeing study. This has enabled us to examine current operating procedures and potential new ones. Finally, certification has helped to enhance dialogue between the stakeholders (customers, retailers, local elected representatives) with regard to environmental issues, in order to ensure the performance of the asset in the long run.

La Caserne de Bonne has been a pilot project for Mercialys, allowing the company to validate its policies and step up the involvement of its staff, with the help of an easy-to-use reference framework of fair but demanding criteria. The Outstanding certifications awarded to the Espace Anjou and Besançon Chateaufarine shopping centres in November 2014 confirmed the successful implementation of these policies.

经验教训和愿景规划

通过La Caserne de Bonne 的BREEAM In-Use认证，为其他项目树立了可持续发展路径。例如，在消防安全程序方面更多的考虑环境风险，完善用户满意度调查和优化设备性能。

认证还有助于在某些操作方面编制具体指南，例如书面程序，有助于当运营管理公司或团队变更时确保建筑性能的持续性。对相关认证流程的研究也大有益处，特别是健康舒适研究。这使我们能够对现有操作程序和可能的新程序进行检验。最后，认证帮助加强了利益相关方（客户、零售商、本地选举的代表）就环保问题的对话，从而确保资产长期高效运营。

La Caserne de Bonne是Mercialys的一个试点项目，借助于一个易于使用、公平、又严格的标准参考框架，该公司可以去验证其政策，并促进员工参与。2014年11月授予Espace Anjou 和 Besançon Chateaufarine购物中心的杰出级认证肯定了这些政策的实施是成功的



PROJECT TEAM DETAILS

- Client: MERCIALYS
- CSR Manager – Audrey SERVADIO
- Director of the Centre – Patrick ROLLAND
- BREEAM In Use Auditor – Hervé MOAL
- Property manager: Sudeco
- Architect: Groupe 6

项目团队信息

- 客户: MERCIALYS
- CSR管理人: Audrey SERVADIO
- 中心主管: Patrick ROLLAND
- BREEAM运营审核人: Hervé MOAL
- 物业管理人: Sudeco
- 建筑师: Groupe 6



WHAT BENEFITS DOES BREEAM CERTIFICATION OFFER?

"We are particularly proud of obtaining this level of certification and thereby becoming the first shopping centre in the world to be certified Outstanding for both parts. It recognizes a systematic involvement and awareness of the team on environmental issues from the design stage to the day-to-day property management," says Patrick Rolland, shopping centre director of La Caserne de Bonne.

This involvement has been highly beneficial to all of the centres' stakeholders: consumers, retailers and investors. This certification has enabled in-house teams to improve operating practices and think about new processes. Public information and awareness has been implemented widely in the centre. Thus, customers benefit from more educational information about environmental best practices adopted at the centre.

An improved environmental performance enables retailers' employees to benefit from better working conditions, through access to natural light and good air quality, etc. Finally, for investors, a well-designed, environmentally efficient, well managed retail centre represents a sound investment.

BREEAM认证能提供什么利益?

La Caserne de Bonne 购物中心主管Patrick Rolland 说道：“获得这个水平的认证从而成为世界首家在两个部分均被评为‘杰出’的购物中心使我们感到特别自豪。它表明，自项目设计到日常物业管理的全部过程，项目团队应对环境问题予以关注，并系统参与。

此次认证对所有中心的相关利益人（消费者、零售商和投资人）都是高度有益的。

该认证使内部团队能够改善操作实践并考虑新流程。

该项目广泛开展信息公示，吸引公众关注，因此，客户也从该中心最佳环境实践中受益。

环境品质的提升，使零售商的雇员们在更优越的条件下工作，如感受自然光和良好的空气质量等。

最后，对于投资者，一个精心设计的、环境高效的、且维护良好的零售中心意味着稳固的投资回报。”

Further details on the BREEAM criteria can be found in the relevant scheme manuals. Copies of the manuals can be downloaded free of charge from www.breeam.com



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