



bre

A GreenPrint for the refurbishment and redevelopment
of two business parks in Aberdeen, UK
英国阿伯丁两家商业园区翻新及再开发绿色企划

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An Introduction to BRE 简介



BRE main site in Watford, England
主要场所位于英格兰沃尔福德

Working in the Construction Industry 建筑行业...

Also Transport, Manufacturing, Electronics, Agriculture 运输, 制造, 电子以及农业...



Building a Better World 创建更加美好的世界

- Working in Partnership 伙伴合作关系
- Helping our clients to deliver their goals 帮助客户实现目标
- Driving innovation 实施创新
- Managing risk 管理危机
- Industrial training 工业培训
- Creating better regulation and standards 建立优化的规则 and 标准

The BREEAM family of tools 工具

BREEAM = The *Building Research Establishment's Environmental Assessment Method*

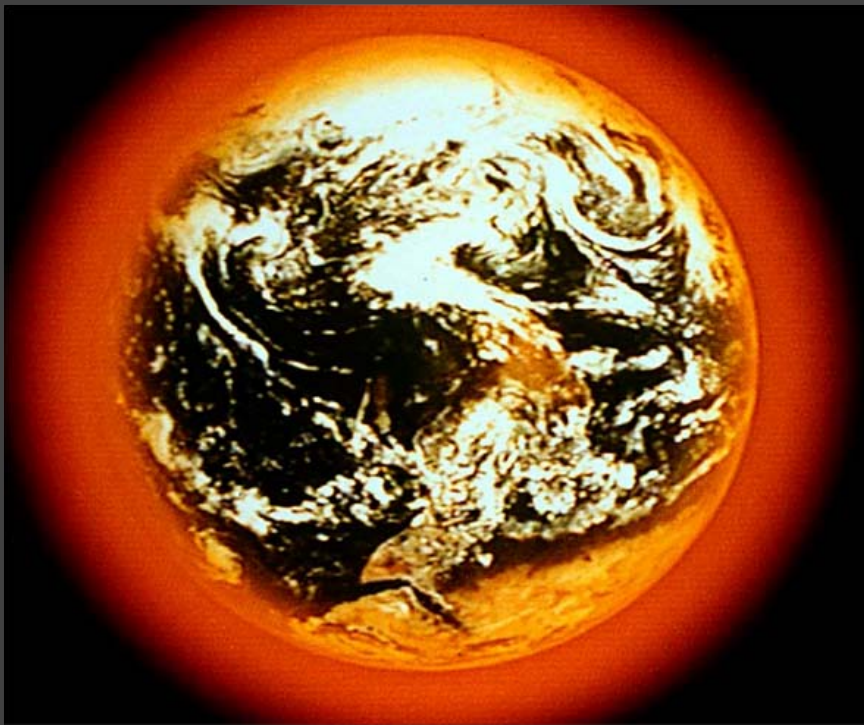
英国建筑环境评估体系:

- EcoHomes (residential assessment) 生态住宅的环境评估方法
- BREEAM Bespoke 特殊建筑的环境评估方法
- BREEAM for Offices 办公建筑的环境评估方法
- BREEAM Industrial 工业建筑的环境评估方法
- BREEAM for Retail 商业零售建筑的环境评估方法
- BREEAM for Schools 学校建筑的环境评估方法
- And more! 更多不同类型建筑物的环境评估方法

Sustainability 持续性...

Global issues to site waste management plans

全球范围面临的建筑垃圾管理问题



Energy 能源...

Energy efficiency to renewable technologies

可更新技术的能源效率



Our resources 我们拥有的资源...

- 650 staff 650 名员工
- Over 450 professionally qualified 450 名以上专业人士
- Many national and international experts 众多国内国际专家
- An integrated team of professionals 统一专业的团队

...people at the heart of our business 核心业务人士

The BRE Innovation Park BRE 创新园



Our locations 我们的场所...

BRE Highlands
Inverness

BRE North East
Middlesbrough

BRE Sheffield

BRE
Garston

BRE Scotland
East Kilbride

BRE Ireland

BRE Wales
Port Talbot



...active World wide 覆盖全球

The Aberdeen Business Parks 阿伯丁商业园

The development of a tool to guide the sustainable refurbishment and redevelopment of two business parks in North East Scotland

利用开发的工具指导英国东北部两家商业园区翻新及再开发项目，使其具有可持续性

The Client 客户

Scottish Enterprise Grampian (SEG):

- An economic development agency, funded by the Scottish Government. 由苏格兰政府出资建立的经济开发机构
- Mission: “to help the people and businesses of Scotland succeed.” 使命: “帮助苏格兰人民和商业获取成功”
- Grampian is one of the most prosperous locations in Scotland 所在地为苏格兰最繁华的地区
- SEG and partners making a £25 Million investment in the parks SEG同其合作者在工业园建立价值2500万英镑的投资
- An estimated £150 Million annual benefit to region 为当地创造1亿5000万英镑的收益



Scottish Enterprise
Grampian

The Business Parks 商业园

Aberdeen Science and Energy Park (ASEP) 阿伯丁科学能源园区

- 29 ha / 72 acres 面积
- Currently home to 40 companies 有40家企业进驻
- Considerable scope for expansion 扩展区域较大
- 9 serviced sites available now for development ranging from 0.30 – 2.62 ha 仍有9个服务区面积0.30 – 2.62 ha不等的地方有待开发
- Further expansion of the park to the north planned .向北部地区扩展计划



The Business Parks 商业园

Aberdeen Science and Technology Park (ASTP) 阿伯丁科学科技园

- 23.7 ha / 58 acres 面积
- 4 miles from Aberdeen City centre 距
离阿伯丁城区4公里
- Three campuses comprising: 包括3处区域
 - Biotechnology centre 生物科技中心
 - Incubation units 孵化园
 - Multi-occupancy facilities 多用途场地
设施
- Limited expansion opportunities 拓展空间
较小

Combined new development space for the two parks is 62,165 m². 两个公园共有新开发区域为62,165 m²



The Brief 简介

- SEG required the development to be undertaken to the highest possible sustainability standards. SEG要求开发达到尽可能高的可持续性发展标准
- SEG needed advice on the sustainability issues to address. SEG需要有关可持续性的问题建议
- SEG required a tool to collate all these sustainability issues in order to communicate them to stakeholders: SEG需要一项工具来比较可持续性的问题, 并向相关利益人沟通
 - Investors 投资人
 - Tenants - both current and future 承租人—当下以及将来
 - Local Planning Authority 当地规划权威
 - Transport stakeholders 交通负责方
 - Neighbours 邻里

So what is *sustainability* 何为可持续性?

Sustainability is the end goal of *Sustainable Development*, which is most commonly defined as: 可持续性作为可持续发展的终级目标, 通常定义为:

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” 发展满足现在的要求但不会损害未来后代的利益

Brundtland Report (1987)

Sustainable Development 可持续发展



Sustainability Checklists / GreenPrint 持续性列表



Climate Change 气候变化

Category objective: To ensure that new development is appropriately adapted to the potential future impacts of climate change and to minimise it's own impact on greenhouse gases, flooding, heat gain and water resources.

目标: 保证开发能够适应天气变化影响, 减少由温室气体, 洪水, 热能以及水资源对其造成的影响

Issues addressed 关键点:

- Flood risk 洪水
- Energy strategy 能源战略
- Renewable energy sources 可更新能源
- Heating hierarchy 热量级别
- Smart metering 精密测量
- Common service trenches 通用服务渠道

Placemaking 区域利用

Category objective: To ensure that the design process, layout structure and form provide a development that is appropriate to the local context and supports a sustainable community. **目标:** 确保设计流程, 规划结构以及形态能够支持当地发展成为可持续发展的社会

Issues addressed 关键点:

- Appropriate landscaping strategies for the environment. 环境景观美化战略
- Usable open spaces. 可利用的户外空间
- Legible and permeable layout (for vehicles, pedestrians and cycles). 便于车辆和行人清晰可见的规划
- Ease of orientation within the development. 定位简洁
- A clearly defined arrival experience 清晰的到达体验
- Development of a park design code 公园设计代码开发
- 'Security by Design' 设计实现安全
- Noise mitigation 噪音降低

Community 社会

Category objective: *To ensure that the development supports a vibrant, diverse and inclusive community which integrates with surrounding communities.* 目标:开发能够实现多元, 包容的社区环境

Issues addressed 关键点:

- Stakeholder consultation 股东方咨询
- Site user information 使用方信息
- Inclusive design 包容性设计
- Catering facilities 餐饮设施
- Networking opportunities 网络规划
- Site intranet 局域网建设

Transport 交通

Category Objective: *To ensure that people can reach the facilities they need by: designing out the need to travel, encouraging walking and cycling, encouraging public transport use and accommodating private cars in a way that minimises their impact and promotes a reduction in their use.*

目标: 人们可以方便到达其目的地, 设计行程路线, 鼓励步行和自行车, 公共交通工具, 同时方便私家车但尽量减少其用量

Issues addressed 关键点:

- A 'Green Travel Plan' 绿色出行计划
- Access to facilities 到达所要去的地点
- Dedicated footpath networks 细致的步行网络
- Dedicated cycle paths 精密的自行车网络
- Cycle storage 自行车存放
- Access to bus stops / frequency of service 不间断性到达车站
- Car parking standards 汽车停放标准

Ecology 生态

Category objective: *To ensure that the ecological value of the site is conserved and enhanced, maintaining biodiversity and protecting existing natural habitats which can contribute to and enhance the amenity of the area.* 目标:该区域的生态价值能够得到保护和加强, 生物物种多样性保护
现有自然环境

Issues addressed 关键点:

- Protection of the sites existing ecological value 保护该地区现有生态价值
- Consideration of the Local Biodiversity Action Plan in the landscape strategy 在景观战略中考虑当地生物物种多样性计划
- The creation of new habitats 建立物种新聚集地
- The specification of native species in the planting strategy 种植战略中自然物种规范

Resources 资源

Category objective: *To promote the more sustainable use of resources related to both the construction and the operation of the development.* 目标: 积极促进建设积极发展过程中资源的可持续利用

Issues addressed 关键点:

- The specification of timber from sustainable sources 可持续资源中的木材资源
- Secondary or recycled aggregates 二次利用或者可循环物累积
- Sustainable drainage systems (SUDS) 可持续性排放系统
- Protection of existing water sources 现有水资源保护
- Rainwater harvesting 雨水收集
- Greywater recycling 灰水循环
- Low water flow fixtures and fittings 低水流动装置和设备
- Construction Site Waste Management Plans 建筑工地废物管理计划
- Recycling during occupancy 使用过程中的循环

Business 业务

Category objective: *To ensure that the development contributes to the sustainable economic vitality of the local area and the region.*

目标：开发为当地经济可持续性活跃发展做出贡献

Issues addressed 关键点:

- The complementarity of new and existing businesses 现有新业务的补充
- The development of priority business sectors 优先业务部门发展
- Support for start-up and small to medium sized enterprises 为新创建以及小型企业提供支持
- Knowledge sharing 知识共享
- Job creation 提供工作机会

Buildings 建筑

Category objective: To ensure that the design of individual buildings does not undermine the sustainability of the overall development. 目标:单个建筑的设计不会对整个可持续性发展目标造成不利影响

Issues addressed 关键点:

New build 新建立:

- BREEM ratings 评级体系

Refurbishment 翻新:

- Minimise energy requirements 降低能源需求
- Minimise need for air-conditioning 降低空调需求
- Introduction of renewables 引入可更新能源
- Introduction of sub-metering 引入辅助计量设备
- Access for all 能够满足以上所有要求

Application in Taiwan 在台湾的应用

- Energy 能源

- Energy security 能源安全
- Increasing costs of oil, coal and gas 油价, 煤以及天然气价格不断上涨
- Carbon emissions 碳排放

- Resources 资源

- The impact of the production or securing of the resource 资源生产安全影响
- The operational impact of the resource. 资源运作方面的影响
- The ease with which it can be disposed of. 方便处理
- Increasing demand and decreasing supply = increasing \$\$\$ 需求增加
供给减少 = 收益增加

The application of GreenPrint 应用

- Holistic consideration of all issues – environmental, social and economic. 对于环境，社会以及经济的全盘考虑
- Discussion and consultation to enable the client to get the most out of the tool and the process. 通过讨论咨询会让客户从该工具和流程中收益颇多
- GreenPrint focuses on the measured delivery of pre-determined benchmarks. 集中关注可量化的预先设定基准
- At the end of GreenPrint the development achieves a rating. 开发结束阶段会有相应的评定
- Valuable tool to facilitate the communication sustainability credentials. 有效的工具会让沟通持续性更加值得信赖



Beyond GreenPrint to project delivery

超越 GreenPrint 投射收益

- BRE consultancy services 咨询服务
 - Community heating systems 社区热能系统
 - Energy strategies 能源战略
 - Renewable energy 可更新能源
 - Security 安全
 - Fire safety 防火安全
 - Waste management 废物管理
- BRE services 服务
 - Air-tightness testing 空气密封测试
 - Daylight modelling 日光树模
 - Bespoke BREEAM Assessments 订立BREEAM评估
 - Environmental Assessments 环境评估



By working together we can build a cleaner, greener Taiwan!!

让我们一起努力共建一个更加洁净, 绿色的台湾!!

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