



CONSTRUCTION &
MAJOR PROJECT
SUSTAINABILITY GUIDE

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This guide must be used to inform decision making for the development of sustainability plans for development and major refurbishment programmes.

Consider sustainable site selection. Have the following risks and opportunities been considered?

- Climate / climate change related risks – physical hazard exposure
- Connection to transport links and multi-modal transit networks
- Locate projects within existing developed areas
- Historical and heritage sites
- Community impact
- Brownfield redevelopment sites
- Contaminated land
- Irremediable pollution
- Follow guidance available within appropriate external codes (relevant to the location where development is planned).

Consider sustainable site development requirements. Can the following issues be considered?

- Reduction of pollution and land development impacts from automobile use
- Minimize site disruption by using the most sustainable building footprint
- Protection or restoration of habitats and promotion of biodiversity
- Implementation of a storm water management plan
- Reduction of heat island effects to minimize impact on microclimate and human and wildlife habitat
- Minimize light pollution
- Construction activity pollution prevention
- Community connectivity.

Consider community engagement:

- What are the community impacts?
- How can these be mitigated?
- Are there any positive community opportunities?

- Employment creation in local community
- Enhancement programs for public spaces
- Research and network activities
- ESG education program
- Supporting local charities and community groups
- What communication methods are provided to ensure effective communication – to received feedback and to address community concerns?

Consider community impact monitoring:

- Development and implementation of a communication plan / community consolation strategy for each project
- Development and implementation of a community monitoring plan for each project
- Identification of key stakeholders and impacted group for the project
- Identification of disruption and nuisance risks
- Development of a risk mitigation plan
- Can community engagement and long-term socio-economic impacts on the community be monitored through the project?
 - Housing affordability
 - Crime levels
 - Local job creation
 - Local income generated
 - Walkability score of project.

Can sustainable materials be specified? Consider:

- Use of building materials or products that have been locally extracted or recovered
- All materials used should be 'Red List Free' from the International Living Future Institute
- Use of rapidly renewable materials and recycled content materials
- Materials that disclose environmental impact
- Materials that disclose potential health hazards
- Use of third-party certified wood-based materials and products
 - Procurement of Forest Stewardship Council (FSC) wood as minimum standard
- Use of low-emitting Volatile Organic Compounds (VOC) materials (including paints, coating, adhesives, and sealants)
- Low embodied carbon materials
- Use refrigerants and insulants with a Global Warming Potential (GWP) less than 10.

Consider green building certification schemes. Are any of the following feasible?

- BREEAM
 - LEED
 - SKA
 - HQE
 - DGNB
 - WELL
 - FITWEL
 - Others
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- Minimum target rating for BREEAM 2018 NC Excellent / In-Use Very Good / HQE Good / LEED Gold for all projects, where feasible.
 - Alignment to BREEAM Very Good requirements for all projects, even where certification not targeted.

Consider the feasibility of completing a life cycle assessment. Has a lifecycle assessment been completed?

- Quantitative assessment
- Qualitative assessment

Net Zero considerations. Is alignment to a Net Zero code / standard targeted?

- Net Zero carbon construction
- Net Zero carbon operational energy

Consider energy performance. Can the following be implemented?

- Minimum EPC rating of B (or local equivalent)
- Alignment to EU taxonomy criteria
 - Minimum requirement to meet Nearly Zero Energy Building Standard (NZEB)
 - Net primary energy demand that is at least 20% lower than the level mandated by national regulations
- Energy performance that exceeds applicable mandatory requirements by at least 10% for new construction projects and 5% for major renovations
- Development and implementation of a commissioning plan
- Verification of the installation and performance of the building energy systems
- Installation of a building management system, where feasible.

Can renewable energy be generated on site? Consider feasibility of:

- Solar / photovoltaic
- Wind
- Geothermal
- Hydro
- Biofuels
- Co / tri-generation.

Does the entity implement measures specifically focused on occupant wellbeing for new construction and major renovation projects? Consider:

- Optimisation of the indoor environment
 - Acoustic comfort
 - Biophilic design
 - Daylight
 - Humidity
 - Illumination
 - Indoor air quality
 - Natural ventilation
 - Thermal comfort
 - Water quality

- Avoid overheating and excessive heat generation, through consideration of the following hierarchy
 - Minimise heat generation through energy efficient design
 - Reduce heat generation through consideration of orientation, shading albedo (white paint / reflective materials), fenestration, insulation, green roofs, and walls
 - Passive ventilation
 - Mechanical ventilation
 - Active cooling systems (lowest carbon options)
- Provision of user-friendly building facilities, furnishings and fit-outs
- Provision of services to support and encourage active transport methods
- Provision of active design features and facilities that promote physical activity.

Has energy efficiency been considered?

- Air conditioning
- Energy modelling
- High efficiency equipment and appliances
- Lighting
- Occupant controls
- Space heating
- Water heating
- Ventilation
- Energy systems commissioning
- Pressure testing to ensure air tightness
- Automatic meter reading (AMR) devices.

Has water efficiency been considered?

- High-efficiency fixtures
- Dry fixtures
- Leak detection system
- Drip / smart irrigation
- Drought tolerant landscaping
- Occupant sensors to reduce the potable water demand
- Re-use of storm water and grey water for non-potable applications
- On-site wastewater treatment

- Water systems commissioning
- Automatic meter reading (AMR) devices.

What waste management policies are feasible during construction?

- Waste management plans
- Education for contractors and relevant employees on waste management requirements
- Construction waste signage
- Diversion rate requirements
- Incentives for contractors for recovering and recycling building materials
- Project specific targets for waste stream recovery, reuse, and recycling
- Waste management plan
- Waste separation facilities
- Waste volume monitoring for hazardous and non-hazardous waste streams.

Consider contractor requirements:

- Contractor needs to be in compliance with an international standard (e.g. ISO 14001)
- Contractor needs to have sustainability resource / staff on site
- Contractor provides update reports on environmental and social aspects during construction
- Contractor ESG training
- Contractor needs to provide regular updates on safety monitoring metrics for construction sites.

FURTHER INFORMATION

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