



SUSTAINABLE DEVELOPMENT

INTERNATIONAL GUIDELINES CONSTRUCTION & REFURBISHMENT

INTRODUCTION:

Since 2006, Accor has initiated a structured sustainable development program “**Earth Guest**”.

Relating to environment preservation, all hotels share the same global management tool: the “Accor Hotels Environment Charter”, based on 65 actions (when numbers in brackets [xx] appear in the text of the present document, they refer to the actions of the Charter).

The Earth Guest program and the Accor Hotels Environment Charter are available on <http://www.accor.com>

GENERAL PRINCIPLES:

- Sustainability is a **basic requirement** for the hotel industry. Its implementation should start from project inception stage.
- All applicable regulations and standards shall be complied with, including requirements of local authorities.
- Furthermore, manufacturers and suppliers should conform to the rules or recommendations of **Accor Hotels Environmental Charter** that are applicable to construction.
- **Accor highly recommends implementing a certification process when designing and building an hotel; such as LEED (USA & Asia), BREEAM (UK), HQE (F), MINERGIE (CH), PASSIVHAUS (D)...**

INTEGRATION INTO LOCAL ENVIRONMENT:

General	<ul style="list-style-type: none"> - Integration into local architecture and environment is a key requirement. - The hotel design and construction shall take into account the site opportunities and constraints such as locally available materials or renewable energies, energy and domestic water availability, rain water, sewage treatment.
Nuisance to neighbours	<p>The hotel shall be designed to minimise disturbance to neighbouring properties:</p> <ul style="list-style-type: none"> - Natural light restriction and/or wind effect to adjacent buildings; - Plant rooms, air supply and extract grilles appropriately designed and located (noise, odours, visual appearance), noisy areas (bars, car parks) adequately fenced...
Energy	<ul style="list-style-type: none"> - Architecture shall be adapted to the local climate and include passive energy optimisation (see Energy § below)
Water	<ul style="list-style-type: none"> - Water scarcity shall be taken into account in the implemented water saving technologies (See Water § below).
Biodiversity	<ul style="list-style-type: none"> - When the hotel site benefits from existing planting and/or other natural features before the hotel is developed, the location of the hotel building and its design shall be such as to cater for such existing elements of interest to be preserved or re-located. - Landscaped areas shall be designed to favour local species [60]
Site pollution	<ul style="list-style-type: none"> - An environmental and pollution survey shall be carried out on site by a qualified specialist prior to construction. Any contaminated or harmful materials/products shall be removed from the site before construction commences.
Transportation	<ul style="list-style-type: none"> - Pedestrian paths and cycle ways to public transport locations shall be included. [4] - The hotel car park shall include an area dedicated to cycle parking. [4]

MATERIALS FOR CONSTRUCTION:

General	<ul style="list-style-type: none"> - The approach to Accor projects shall be to '<i>Reduce, Re-use and Recycle</i>' in that order where appropriate. - Accor favours the use of locally available materials wherever possible.
Timber	<ul style="list-style-type: none"> - All timber used during construction or in the finished hotel must originate from sustainable sources and carry recognised certification to demonstrate it (eg. Forest Stewardship Council - FSC).
Asbestos	<ul style="list-style-type: none"> - An asbestos survey shall be carried out by a qualified specialist on any existing structure. Any existing material containing asbestos shall be removed and/or encapsulated before construction commences. - Materials not forming part of the existing structure shall be removed from the site and disposed off in an approved disposal facility, in accordance with applicable regulations. - Construction materials shall not contain Asbestos. Developers / Contractors shall provide certification to this effect.

ENERGY:

General	<ul style="list-style-type: none"> - Architecture shall be adapted to local climate with inclusion of passive energy optimisation: <ul style="list-style-type: none"> o appropriate orientation of buildings, location and sizing of windows or other glazed areas, sun screens, natural lighting, ... o high levels of thermal insulation, reduction of thermal bridges, lobbies to external doors, ... - Optimisation of m2 to be built, and of sizing of mechanical services
Monitoring	<ul style="list-style-type: none"> - Metering systems of all energy uses shall be included with sub-meters on main points of use, such as domestic hot water production, kitchen, heating, cooling [06]
HVAC	<ul style="list-style-type: none"> - Sizing of all M&E systems & equipment must be value-engineered & optimized at design stage. - Energy recovery systems shall be included [18,20] - Air Handling Units (AHU) shall always be fitted with high efficiency heat recovery systems between air extract and air supply [20] - Fresh air flow shall be continuously modulated to introduce in the building only what is needed depending on occupancy (ie working time of kitchen, occupancy of restaurant, meeting rooms...). Free cooling systems shall be proposed. - Chillers will be high efficiency type and preferably “scroll” or “screw” type depending on size. - Refrigerants: CFC / HCFC shall be forbidden. - Gas boilers must be full modulating type and include at least one number condensing unit [18]. - In order to limit losses in distribution and optimise efficiency of production: Hot water temperature for building heating shall not exceed 50°C; Chilled water shall be supplied not below 8°C. - Under-floor heating systems shall run on (very) low temperature (30°C max) - The water pipes and air ducts will be well insulated: the energy losses in the distribution shall be less than 7% (water pipes) and 5% (air ducts) of the energy delivered to the fluid by boilers, heaters, chillers...(secondary circuit) [16]. - Circulating pumps, fans, AHUs will be fitted with variable speed drive.
Domestic Hot Water	<ul style="list-style-type: none"> - When running times of chillers make it interesting, they shall be fitted with heat recovery for domestic hot water production (or pre-heat), [20]. - Solar production of domestic hot water shall be included whenever climate and economic conditions make it relevant [22].
Lighting	<ul style="list-style-type: none"> - Lighting in guest rooms and in public areas will include a significant portion of low energy fittings: PL or compact fluorescent, LED lamps [11, 12, 14] - When low voltage halogen lamps are required, they will be 20W or 35W (high efficiency) only (no 50W halogen) (with no increase of quantity) - Only low energy fittings will be used in all other areas (back of house, car parks, external lighting, signage...). - All fluorescent lamps or tubes must be fitted with electronic ballasts only. - External lighting to be controlled with timer switch AND photocell. - Lighting in guest rooms will be controlled by a master switch (card key operated or otherwise). - Lighting shall be controlled by occupation sensors in areas such as meeting rooms, back of house rooms and corridors, fitness-pool areas. - Façade lighting to be high efficiency with more than 50 lumens/watt and low UV emissions to reduce light pollution [10]

WATER

The design will be such that water consumption will be minimised without affecting guest comfort

Monitoring	- Metering systems of all water uses shall be included with sub-meters on main points of use, such as domestic hot water production, kitchen. [25]
Efficient fittings and fixture	- Water flow regulators will be fitted to all wash basin taps (6 litres/mn), hand showers (9 to 12 litres/mn), ceiling rain showers (20l/mn max) [26,27] - Flushing tanks for WCs will be 6 litres maximum, with 2 buttons (small flow, regular flow) [28] - Wash basins & urinals in public toilets will be fitted with controlled infra-red taps. - Wash basins & urinals in staff toilets, staff linen, pantries... to be fitted with push type taps.
Landscape	- Landscaped areas shall be designed to require minimal additional irrigation and integrate in the design low-consumption irrigating equipment [59]
Water scarcity	- When an Accor hotel is to be developed in a location where the Annual Renewable Water Supply per person is qualified as "extreme scarcity" ("Global Water Tool", http://www.wbcd.org/) a complete water resources impact assessment shall be performed by a qualified specialist as well as an economical assessment of all potential technologies / solutions (ex: rain water recycling, grey water recycling, landscaping with low consuming plants...) available to limit water consumption

WASTEWATER

Water treatment	- Wastewater shall be either effectively treated by a collective treatment plant or via an individual sewage treatment plant [36] - A grease trap shall be installed on kitchen drain [35]
Water recycling	- Rainwater or grey-water recycling feasibility shall be assessed by a competent specialist [33, 37]

WASTE

Selective sorting	- Each hotel shall organise selective sorting of rubbish. For that purpose, several rooms or areas shall be designed to accommodate separately: returned empty bottles; organic refuse; cardboard; glass; metal, cans; paper. [38 to 52]
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REQUIREMENTS DURING CONSTRUCTION:

Environment	Contractors shall implement and comply with: <ul style="list-style-type: none"> - a site management process protecting neighbourhood from excessive disturbance. - a waste management policy to both minimise material wastage and ensure that a high percentage of site waste is recycled.
Social	Contractors shall implement and comply with the following requirements: <ul style="list-style-type: none"> - Respect the principles of the fundamental agreements of the ILO (International Labour Organization) and comply with all applicable local regulations. - Use of local labour and respect of local customs - Practise non-discrimination with regard to sex, race, religion and political affiliation. - Reject corporal punishment, psychological and sexual harassment, etc. - Implementation a health and safety plan including monitoring process.