

Green Factory- Check list for Planning

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**Generator
Technologies**



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Green Factory Check List- “Site Selection and Planning”

Sr No	Credit Items	Points	Actions Required	Implementation	Stage of addressing
Mand 1	Compliance with Local Regulation		Statutory compliance	E	Design& Implement
Mand 2	Soil Erosion Prevention and Control		Erosion Control measures(NBC),stock piling of fertile top soil and use, Soil Erosion measure Post occupancy.	E	Design-Start and Completion of Project
Credit 1	Contaminated site remediation	1	Rehabilitate Contaminated site	D	Before selecting site
Credit 2	Access to Public Transport/Shuttle service	1	Access to Public Transport within 1km or, Shuttle service for 40% employees	M	Start of Project
Credit 3	Basic Amenities	1	On site (First Aid Medical, Canteen, Lockers/showers, canteen) and Off site Amenities (Retail shop,school,Bank,Fire stn, Hospital,PO.Electricity/Water Payment counter)	E	Start of Project(depends on site location)
Credit 4	Natural Topography and Land scape 25%,50%	2	Avoid Site disturbance by retaining Natural Topography/Landscape at least 25%	E	Project Planning
Credit 5	Heat Island effect on Factory Roof and Parking	2	Use of High Albedo roofing material/heat resistant paint or any Reflective material 50% area Or Vegetation to cover 50% area. Parking area-- Plant shade giving trees for 75% of Open parking or Permanent Roof to cover 75% area or Basement	E	Project Design stage
Credit 6	Non fossil Fuelling Facility for Vehicles	1	Non fossil fueling facility to Cover 5% of parking Capacity Ex. Electric Charging Points and Electric Vehicles	E	Project Design stage
Credit 7	Design for Differently Aabled	1	Easy access to car Parking, to main Entrance, Uniformity in Floor Levels, Rest room and Toilet Designed for Disabled (NBC)	E	Project Design stage
	Total	9			

Green Factory Check List- “Water Conservation”

Sr No	Credit Items	Points	Actions Required	Ease of Implementation	Stage of addressing
Mand 1	Rain Water Harvesting,50% roof and non roof run off		RW Harvesting or storage system to Capture 50% run off volume from roof and non roof surface	E	Design& Implement
Mand 2	Low Flow Water fixture		Select Water fixtures meeting or exceeding Base line	E	Design& Implement
Credit 1	Turf Limit Area	2	Limit Turf on site to conserve water(<=20%-1Pts,<=40%-2Pts	M	Site Design stage
Credit 2	Draught Tolerant Species	1	25% Landscape area drought tolerant species	M	Land scape Design
Credit 3	Management of Irrigation system	2	Efficient Irrigation system-- Central shut off valve, moisture sensor controller,segregation of bedding area based on watering needs, 50% area with Drip Irrigation, Time based controller, Pressure regulating devises (Any Two)	E	Land scape Design
Credit 4	Rain Water Harvesting,75%,95% roof and non roof run off	2	Rain water harvesting system to capture after from roof to utilize in Landscape irrigation or indoor use	D	Project Planning
Credit 5	Non Process Water Treatment- 75%,95%	2	Provide on site water treatment system to Treat waste water.>=75%-1Pt,>=95%-2Pts. Treated water must confirm CPCB standards	E	Project Design stage
Credit 6	Water Reduction	2	Use water efficient fixtures to reduce total water consumption by 20%-1pt, 30%-2 Pts	E	Project Design stage

Green Factory Check List- “Energy Conservation”

Sr No	Credit Items	Points	Actions Required	Ease of Implementation	Stage of addressing
Mand 1	CFC Free Equipment		HVAC equipment and Unitary air conditioners must be CFC Free	E	Design& Implement
Mand 2	Minimum Energy Performance		Conditioned Buildings-ECBC2007/ASHRE90.1-2004,Unconditioned Building-ECBC 2007/ASHRE 90.1 2004 for Lighting Power Densities and Motor Efficiencies	E	Design of Lightings and Equipment
Credit 1	HCFC Free Process Equipment	1	HVAC equipment and Unitary air conditioners must be HCFC Free. Fire Suppression systems without CFC's.HFC's and HCFC's.	M	Equipment Deign and selection
Credit 2	Optimise Energy Performance	5	Demonstrate % improvement factory Building Performance To Base line ECBC/ASHRE 90.1-2004.25%-3pts,30%-4Pts,35%-5Pts. OR Exceed applicable criteria by 10% as per applicable ASRAE specs.	M	Building Lighting and Equipment Design.
Credit 3	Metering	1	Have separate meters for Process and non process loads. Separate meters for A/c,Internal lighting, External Lighting, Water pumping,Grey water and and pumping for landscaping.	E	Equipment Deign and selection
Credit 4	On site Renewable Energy Generation 2%,5%,7%	3	Renewable Energy for 2.5%-1Pt,5%-2Pts,7%-3Pts of total consumption	D	Project Planning
Credit 5	Green Power 50%,75%,100%(off site)	3	Install Green power equivalent of 50%-1Pt,75%-2 Pts,100%- 3Pts at Off site,of total consumption	D	Project Planning
Credit 6	Eco Friendly Captive Power Generation for Factory Building	1	Use bio fuels or non edible oils for captive power generation	D	Project Design stage
	Total	14			

Green Factory Check List- “Material Conservation”

Sr No	Credit Items	Points	Actions Required	Ease of Implementation	Stage of addressing
Mand 1	Handling of non Process waste (Post Occupancy)		Have a facility to segregate at least 5 of following- Organic waste,Plastic,Paper,metal,E waste,Lamps,Batteries	E	Design& Implement
Credit 1	Waste Reduction During Construction	1	Avoid at least 75% of waste generated during construction being sent to land fills and incinerators	E	Before selecting site
Credit 2	Material with Recycled content	2	Use material with recycled content at least 10% of material cost -1 Pt,>=20%-2Pts	M	Tender specs
Credit 3	Local Material 50%,75%	2	50% of building material from Local (within 500km radius) 1Pt, 75%-2 Pts.	E	Start of Project(depends on site location)
Credit 4	Material Reuse 5%,10%	2	Ensure 5% (total material cost) of building is salvaged, refurbished and reused.	E	Project Planning and Execution
Credit 5	Certified wood Based Building Materials and furniture 50%,75%	2	Ensure at least 50% of wood used will be FSC certified-1 Pt,75%-2 Pts.	M	Project Design stage
	Total	9			

Green Factory Check List- “Work Environment Quality”

Sr No	Credit Items	Points	Actions Required	Ease of Implementation	Stage of addressing
Mand 1	Minimum Fresh Air Requirements		Install fresh air delivery system in all occupied spaces to meet Minimum Air flow requirements specified by Leeds for Air-conditioned and Non Air conditioned spaces.	E	Design
Credit 1	Fresh Air Requirements 20%,30%	2	Fresh air Delivery systems exceeding 20% of stds-1Pt,exceeding 30%-2 pts.	M	Design
Credit 2	Low VOC Materials	2	Use Low VOC paints for 100% interior,, VOC emitting materials like adhesives, carpets sealants etc... VOC levels should not exceed specied Limits	M	Design and Execution
Credit 3	Building Flush Out	1	Flush out to be carried out for 10 days for naturally ventilated buildings. If forced Ventilation is used can be done in 5 days.	E	End Project
Credit 4	Day Lighting 50%,75%,95%	2	Achieve day light factor of 2% for min 50% area- 1 Pt,75%-2 Pts, 95%- 3 pts	E	Project Planning
Credit 5	Comfort Conditions	5	Building should be designed to achieve min PMV value of 0 to 1,8-1 Pt,0.2 to 1.6-3pts, 0,4-1.4-4 pts,0.6-1.2-5pts.	M	Project Design stage
	Total	12			

Green Factory Check List- “Occupational Health”

Sr No	Credit Items	Points	Actions Required	Ease of Implementation	Stage of addressing
Mand 1	Avoid use of Asbestos in the Building		Don't use asbestos in the building	E	Design stage
Credit 1	Reduction of Workman fatigue(Break out spaces	1	Provide break out spaces within campus (within 0,3 Km) to cater to 5% of employees	E	Design Stage
Credit 2	Measures to prevent Legionnaires Disease	1	Plan in place to address the spread of Legionnaires disease	E	Part Of EHS procedure and Policy
Credit 3	Eco Friendly House Keeping Chemicals	1	Use products that meet Green Seal standards (GS-37)	E	Part of cleaning Contract
Credit 4	Aerobic & Cardiovascular Gymnasium	1	Provide adequately sized Gymnasium with a certified trainer in the campus	E	Project Planning
	Total	9			

Green Factory Check List- “Innovation in Design”

Sr No	Credit Items	Points	Actions Required	Ease of Implementation	Stage of addressing
Credit 1	Innovation In Design	3	Exceptional Performance above requirements of IGBC	D	Before selecting site
Credit 2	IGBC AP	1	One principle participant of project team shall be IGBC Accredited Professional	M	

Green Factory Check List- “Conclusions”

- Check List parameters should be part of architect’s Base design inputs.
- If design agencies are separate for Landscaping, Electrical Design, HVAC,HSE requirements and Interior Design/Office work-Resp Check list parameter will be the design input to these agencies
- If any of the equipments are procured directly, buyer’s need to fulfill the specs as per the Check list requirement.
- Independent Consultant preferred to review the design out put of all these agencies and ensure the documentation from time to time as work progresses.
- Same consultant to Co-ordinate Certification from the Certification bodies like IGBC