Technical Requirements

Feature/ Item	Tick below as appropriate	Comments/Notes
INTEGRATED SITE PLANNING		
1. Appropriate site development strategy with links to wider community/ commercial developments		
2. Energy efficient transport link(s)/ Pedestrian and bike friendly		
3. Provision for Household/Garden/Sanitary waste management		
4. Group or district heating with efficient distribution		
5. Other positive ecological features (please specify)		
TOWARDS LOCAL ENERGY AUTONOMY		
1. Energy from local biomass or waste		
2. CHP		
3. Wind energy source		
4. Photovoltaic electricity		
5. Other renewable energy sources		
LANDSCAPING & SHELTER		
1. Use of site contours		
2. Reduce site exposure via earth berming, shelter planting, or wind barriers		
BUILT FORM, DESIGN & ORIENTATION		
1. Compact built form to minimise surface area for heat loss		
2. Orientation and internal zoning to facilitate passive solar heat gain and day lighting / optimised glazing to the south and west		
3. Design for natural cooling and ventilation / appropriate thermal mass for passive solar heat storage		
4. Sunspaces and collector walls/ floors		
5. Design for spatial/ functional adaptability		
FABRIC ELEMENTS		
1. Pitched Roof: insulation at ceiling (U-value ≤ 0.16 W/m^{2}K) or on slope (U-value ≤ 0.20 W/m^{2}K)		Must surpass elemental u-values at a minimum
2. Flat Roof (U-value ≤ 0.22 W/m^{2}K)		
3. Wall insulation (U-value ≤ 0.27 W/m^{2}K)		
4. Floor insulation (U-value ≤ 0.25 W/m^{2}K)		
5. Windows, doors and roof lights (U-value ≤ 2.2 W/m^{2}K)		
6. Detailing to minimise cold bridging		

Energy Technology Specifications continued on next page

House of Tomorrow – List of Technology Options

VENTILATION & AIR QUALITY CONTROL			
1. Draught lobby (single or double)			
2. Comprehensive ventilation strategy to include:			
• Planned ventilation paths and openings			
• Underfloor draught supply or balanced flue to all fireplaces and heating appliances			
• Controllable trickle ventilation			
• Mechanical air extract from kitchens & bathrooms, with humidity activation			
• Draught sealing of all openings and joints			
or equivalent.			
3. Comprehensive structural sealing against air leakage			
4. Balanced mechanical ventilation with heat recovery, or equivalent			
5. Allergen & asthma reduction measures			
6. Radon reduction (where applicable)			
HEAT GENERATION SOURCE (single or group)			
1. Low emissions appliance with seasonal thermal efficiency over 75%			
• Condensing boiler (natural gas, LPG or oil)			
• Combi boiler (natural gas, LPG or oil)			
• Wood burning stove with low emissions (preferably auto-feed)			
• Low emission solid fuel appliance (preferably auto-feed)			
2. Innovative heating system			
• *Active solar space and/or water heating installation*			
• *Heat pump installation (gas or electric)*			
• *Micro – CHP installation*			
3. SECONDARY HEATING APPLIANCE (if applicable) High efficiency, low emissions, stove or equivalent -			
HEATING DISTRIBUTION and CONTROLS			
1. Insulation of all heating pipes and ducts in unheated locations			
2. Separate space & water heating circuits			
3. Minimum seven day programmable controller or Optimum start/stop programmer			
4. Thermostatic radiator valves or Zoned space temperature controls			
5. Zoned and timed temperature controls			
6. Weather compensating temperature control			
7. Remote access computer compatible controls			
8. Computerised energy management system (Group Heating)			
9. User friendly heat metering *Except solid fuel fired (Group heating)			
SANITARY H&C WATER & WASTE FACILITIES			
1. Combi boiler			
2. Instantaneous gas fired water heating			
3. Gas fired hot water storage cylinder			
4. Water economy measures (mixer taps, economy flush toilets, grey water capture, etc.)			
BUILDING MATERIALS			
1. CFC and HCFC free materials			
2. Sustainable materials selection:			
• Low toxicity materials			
• Materials from sustainable sources			
• Local materials			
• Low embodied energy materials			
• Materials with recycled content			
APPLIANCES: REDUCED ELECTRICITY USAGE			
1. Low energy lighting/appliances			
2. Provision for natural clothes drying			