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Delegations will find attached document C(2025) 8723 final - ANNEX.

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ANNEX

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to

COMMISSION DELEGATED REGULATION (EU) …/...

amending Annex III to Directive 2024/1275/EU of the European Parliament and of the Council as regards the Union framework for the national calculation of life-cycle global warming potential

ANNEX

Calculation of life-cycle GWP of new buildings pursuant to Article 7(2)

1. GENERAL FRAMEWORK

This annex sets out a Union framework for the national calculation of life-cycle GWP, with a view to the disclosure of the results in the energy performance certificate of the building pursuant to Article 7(2). For the verification of compliance with a limit value pursuant to Article 7(5), Member States may decide to leave out some parts of life-cycle stages and some parts of the scope of building components, for example by applying weighted coefficients associated with the date of emission during the building's life cycle.

The life-cycle GWP of new buildings shall be calculated in accordance with the minimum requirements set out in this Annex and following the relevant parts of the standard EN 15978 (EN 15978:2011 Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method) and taking into account any subsequent standard relating to the sustainability of construction works and the calculation method for the assessment of environmental performance of buildings. This does not constitute a legal codification of this standard.

The life-cycle GWP disclosed in the energy performance certificate (EPC) of the building shall reflect the as-built stage.

2. REFERENCE STUDY PERIOD

The life-cycle GWP shall be calculated over a reference study period of 50 years.[1]

3. DATA FOR CALCULATION

Data issued in accordance with Regulation (EU) No 305/2011 or Regulation (EU) 2024/3110, referred to as ‘data available under the Construction Products Regulation’ in Table 1, shall be used when available. If compatible with ‘data available under the Construction Products Regulation’, data issued in accordance with product regulations adopted on the basis of Directive 2009/125/EC, Regulation (EU) 2017/1369, or Regulation (EU) 2024/1781 of the European Parliament and of the Council[2], referred to as ‘data available under ecodesign and energy labelling legislation’ in Table 1, shall also be used. If such data are unavailable, other types of data referred to in Table 1 may be used. Member States shall ensure the highest possible accuracy and reliability of the results of the life-cycle GWP calculation and are encouraged to allow the use of project-specific or product-specific data which have higher quality and higher precision than generic data or default values.

Table 1 Overview of definitions of different type of construction product data

Type of data	Definition and use

[1] The fixed 50-year reference period is considered appropriate with a view to achieving comparable results. It should be understood as a conventional reference rather than an assumed service life of buildings.

[2] Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (OJ L, 2024/1781, 28.6.2024, ELI: http://data.europa.eu/eli/reg/2024/1781/oj).

Data available under the Construction Products Regulation	Product data of climate change effects obtained from the declaration of performance and conformity (DoPC) under Regulation (EU) No 305/2011 or Regulation (EU) 2024/3110, including DoPC covered by a harmonised technical specification and DoPC issued in accordance with the relevant European assessment document and European technical assessment.
Data available under ecodesign and energy labelling legislation	Compatible data issued in accordance with product regulations adopted on the basis of Directive 2009/125/EC, Regulation (EU)2017/1369 or Regulation (EU) 2024/1781.
Project-specific data	Project-specific data calculated in accordance with standard EN 15804 or EN 50693 or a compatible standard, although not issued under Regulation (EU) No 305/2011 or Regulation (EU) 2024/3110 or product regulations adopted on the basis of Directive 2009/125/EC, Regulation (EU) 2017/1369 or Regulation (EU) 2024/1781. Those data may be used only if they are specifically permitted by national legislation.
Product-specific data	Product-specific data calculated in accordance with standard EN 15804 or EN 50693 or a compatible standard, although not issued under Regulation (EU) No 305/2011 or Regulation (EU) 2024/3110 or product regulations adopted on the basis of Directive 2009/125/EC, Regulation (EU) 2017/1369 or Regulation (EU) 2024/1781. Those data may be used only if they are specifically permitted by national legislation.
Average data for a product group in accordance with standard EN 15804 or EN 50693	Sectoral environmental data represent the average of multiple products from one or more companies and are provided by industrial associations or other equivalent organisations that cover the product. Those data may be used only if they are specifically permitted by national legislation.
Generic data	Generic environmental data calculated in accordance with standard EN 15804 or EN 50693 or a compatible standard for a group of products for a country or region. Those data may not be site or enterprise specific. Member States shall set clear rules as to how those data are to be generated or calculated, on the basis of similar existing product-specific data. Those rules shall be based on conservative assumptions, so as not to favour generic data on an unfair basis over product-specific data. Member States may establish generic data for reused construction products, taking into account the benefits of circular approaches.
Default values	Environmental data calculated in accordance with standard EN 15804 or EN 50693 or a compatible standard may be used to fill data gaps, where none of the above types of data are available, or where it is necessary to simplify the calculation. Default values may be set out for a specific scope of a

	building element or multiple building elements, or for a scope of a life-cycle sub-module or a life-cycle module, or multiple life-cycle sub-modules or multiple life-cycle modules. Member States may set default values with conservative assumptions that encourage the calculation with specific data when available. Member States may set a series of default values that ensures that the disclosure of the life-cycle GWP of new buildings, pursuant to Article 7(2), is possible even in the absence of any specific data.

Member States shall set out clear rules, with a consistent and conservative approach, to generate and update generic data and default values. Member States shall ensure that the necessary data, including generic data and default values, are made publicly available, allowing life-cycle GWP calculations for new buildings by the dates set out in Article 7(2), including in cases where project-specific or product-specific data are not available.

For data types other than data available under the Construction Products Regulation or under ecodesign and energy labelling legislation, Member States are encouraged to limit market fragmentation through the recognition of reliable and compatible available data issued in any Member State, including product-specific data and project-specific data calculated in accordance with EN 15804 or EN 50693 or a compatible standard. In any event, Member States shall take the necessary measures to ensure consistency and compatibility between data when combining those data from different sources and ensure that the final results for the life-cycle GWP are reliable.

4. USEFUL FLOOR AREA

The life-cycle GWP shall be expressed in units of kg CO2eq/m² of useful floor area.

Member States shall set out how the definition of useful floor area is to be used in practice to calculate the life-cycle GWP of new buildings. The useful floor area shall correspond to the area of the parts of the building that are covered by the life-cycle GWP calculation and shall not extend beyond the building envelope. Member States shall describe at national level the adopted useful floor area in terms of component areas, as defined in accordance with International Property Measurement Standards (IPMS)[3] or an equivalent standard, which ensure the transparency, consistency and comparability of floor area measurements.

The life-cycle GWP shall be calculated and disclosed in the EPC of the building, in accordance with Article 19 and Annex V, or of the building unit where applicable. If relevant, Member States may set rules for allocating the emissions of building components shared by multiple buildings. Those rules shall ensure that the life-cycle GWP calculation is fair, transparent and consistent across different buildings and projects.

5. SCOPE OF LIFE-CYCLE STAGES

The life-cycle GWP shall be calculated for each required life-cycle stage, as set out in Table 2. Member States may decide to exclude any optional life-cycle stages from the calculation, as set out in Table 2.

For each life-cycle stage, when the information available at product level offers multiple scenarios, the calculation at building level shall be as representative as possible of the

[3] https://ipmsc.org/wp-content/uploads/2023/01/ipms-all-buildings-.pdf

building project or building. When reliable information is not available, or a simplified calculation is relevant, Member States may decide to allow a default scenario to be used for the calculation, based on the worst-case scenario principle.

Member States may adopt default values for any life-cycle stages or sub-life-cycle stages in accordance with the requirements relating to data for calculation set out in Section 3 to fill data gaps or when it is necessary to simplify the calculation.

Table 2 Life-cycle stages to be calculated, according to EN15978:2011 and prEN15978:2025 and taking into account any subsequent standard relating to the sustainability of construction works and the calculation method for the assessment of environmental performance of buildings

Life-cycle stages		**Required/Optional**
EN15978:2011	**prEN15978:2025**	
A1: Raw material supply	A1: Extraction and upstream production	Required
A2: Transport	A2: Transport to factory	Required
A3: Manufacturing	A3: Manufacturing	Required
A4: Transport	A4: Transport	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value
A5: Construction installation process	A5: Construction installation process	Required Member States may choose to exclude processes related to pre-construction demolition and transport of construction workers to and from the site. If a process related to pre-construction demolition or transport of construction workers to and from the site is calculated, the results shall be reported as separate indicators
B1: Use	B1: Use B1.1: Emissions from materials and carbonation	Required Member States may choose to limit the calculation to

	B1.2: Fugitive emissions of refrigerants	information available at product level and equivalent generic data or default value, including impact associated with fugitive emissions of refrigerants
B2: Maintenance	B2: Maintenance	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value
B3: Repair	B3: Repair	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value
B4: Replacement	B4: Replacement of building components	Required Member States shall clearly set at national level the rule for quantifying the number of replacements for the components or products to be applied, for example, simple averaged decimal number of replacements, integer number of replacements When available, information related to reference service life made available in accordance with Regulation (EU) No 305/2011 or Regulation (EU) 2024/3110 or product regulations adopted on the basis of Directive 2009/125/EC, Regulation (EU) 2017/1369 or Regulation (EU) 2024/1781 shall be used.
B5: Refurbishment	B5: Refurbishment	Optional

B6: Operational energy use	B6: Operational energy use B6.1: Regulated building-integrated systems (services) B6.2: Non-regulated building-integrated systems (services) B6.3: Other energy use related to building user activities	Required The calculation should be consistent with the calculation of operational greenhouse gas emissions, in accordance with the common general framework set out in Annex I. Member States may limit the calculation only to regulated building-integrated systems (services) covered by this Directive If Member States decide to allow forward-looking greenhouse gas (GHG) emission factors for the operational emissions, the factors shall be justified, consistent and clearly defined for the whole reference study period The allocation of the impacts of the exported energy shall be performed in accordance with standard EN 15978. The impact of the exported energy is reported in life-cycle stage D2
B7: Operational water use	B7: Operational water use B7.1: Essential building-integrated systems (toilets, showers, bathrooms, heating, cooling, ventilation, humidification, and irrigation) B7.2: Other building-integrated systems (swimming pools, saunas etc.) B7.3: Non-building-integrated systems (for example, dishwashers, washing machines, etc.)	Optional
	B8: Building-integrated	Optional

	users' activities, not covered by B1-B7 B8.1: Transport of persons to and from the building B8.2: Charging of electric vehicles within the building site B8.3: Others, such as use of 'consumables' like paper for offices, or furniture and equipment not fixed to the building	
C1: Deconstruction	C1: Deconstruction / Demolition	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value
C2: Transport	C2: Transport to waste processing or disposal	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value.
C3: Waste processing for reuse, recycling and/or recovery	C3: Waste processing for reuse, recycling and/or recovery	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value
C4: Disposal	C4: Disposal of waste	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value

D: Benefits and loads beyond the system boundary	D1: Reuse, recycling and energy recovery resulting from the net flows of materials exiting the system boundary	Required Member States may choose to limit the calculation to information available at product level and equivalent generic data or default value
	D2: Potential benefits and loads from exported utilities (for example, electrical energy, thermal energy, potable water)	Required

6. ALLOCATION OF EMISSIONS RELATED TO A BUILDING'S ENERGY CONSUMPTION AND ON-SITE GENERATION

Table 3 outlines the three possible approaches to allocating embodied emissions related to a building's energy consumption and on-site generation. To ensure transparency, consistency and accuracy in the calculation, Member States shall choose one of the approaches listed in Table 3, namely approach A, approach B1 or approach B2. If approach B1 or B2 is adopted at national level, Member States shall make publicly available the chosen allocation rules needed for the calculation in accordance with the energy calculation and relevant standards.

For the purpose of life-cycle GWP calculation, the allocation of operational emissions related to a building's energy consumption and on-site generation through all life-cycle stages shall be performed in line with the choice of the allocation of the embodied emissions and in accordance with standard EN 15978.

Table 3 Calculation of embodied emissions of on-site renewable energy production

Influencing factor	**Approach A**	**Approach B1 or B2**	
Type of allocation of embodied emissions to the building of energy *storage components*	Full allocation to the building		
Type of allocation of embodied emissions to the building of *other system parts*	Full allocation to the building	**B1:** Proportional allocation to the building based on the share of captured/generated energy used for self-consumption	**B2**: Allocation to the building for components integrated into the building envelope and forming its surface, as well as

			proportional allocation of the remaining embodied emissions to the building based on the share of captured/generated energy used for self-consumption

7. SCOPE OF BUILDING ELEMENTS AND TECHNICAL EQUIPMENT

The life-cycle GWP calculation shall include as a minimum the building elements and technical equipment listed in Tier 2 under the shell and core categories of Table 4. Member States shall ensure a comprehensive and accurate life-cycle GWP calculation, clearly describing at national level the building elements and technical equipment of a building required for the life-cycle GWP calculation. To this end, Member States may follow the examples shown in Tier 3 and Tier 4 of Table 4 and provide any substantial deviations in the national legislation.

Building elements and technical equipment or systems covered by the EPC of the assessed building shall be taken into account in the calculation if Member States consider that their ownership and maintenance is partially or exclusively the responsibility of the building owner[4], even if they are external to and structurally independent from the assessed building. When building elements and technical equipment are external to and structurally independent from the assessed building, the emissions associated to those building elements and technical equipment shall be taken into account in the embodied carbon and operational carbon analysis, but their floor area shall not be taken into account for the floor areas.

Member States may consider adopting generic data or default values for any of the elements mentioned in the tiers in Table 4, in accordance with the requirements relating to data for calculation set out in Section 3 to fill data gaps or when it is necessary to simplify the calculation.

Table 4 Hierarchical scope of building elements and technical equipment

Tier 1	**Tier 2**	**Tier 3 (example)**	**Tier 4 (examples)**
Shell	Substructure	Foundation piling and underpiling	Permanent piles and caisson

[4] Specific examples of building technical systems that could be considered in the "core" elements include: building integrated PV panels, roof-mounted solar thermal arrays, PV or solar thermal arrays installed on communal ground, local district heating systems, or a ground source heat pump system installed underground. Only technical systems that are built as part of the new construction project can be counted. Ownership may be exclusive to one building or a common group of building units (e.g. apartment blocks). A common feature of ownership shall be the responsibility to pay for any maintenance, repair and upgrading of the technical system. In cases of communal ownership, the total embodied carbon of the whole technical system should be divided proportionately between the owner building units.

			Underpinning
		Foundations	Lateral supports
			Raft footings, pile caps, column bases, wall footings; strap beams, tie beams
			Substructure walls and columns
			Ground floor slabs and beams (when the building includes a basement, basement bottom slabs should be counted within the relevant Tier 3 "Basement elements")
			Lift pits (slabs and walls)
		Basement elements	Basement lateral supports
			Basement bottom slabs and blinding
			Retaining walls
			Basement structural walls, braces and columns
			Basement beams, joists, braces and slabs
			Basement staircases and ramps
			Vertical waterproof tanking, drainage blanket, drains and skin wall
			Horizontal waterproof tanking, drainage blanket, drains and topping slab
			Basement insulation
			Basement lift pits, sump pits, sleeves
		Composite work, prefabricated work and sundries for	

		'Substructure'[5]	
	Structure	Frames and slabs (above top of ground floor slabs)	Structural walls, braces and columns
			Upper floor beams, joists, braces and slabs
			Roof beams, joists, braces and slabs
			Staircases (forming part of the structure)
			Fireproofing to steel structure
		Tanks, pools and sundries	Only when located within the building envelope (otherwise included in external works)
		Composite work, prefabricated work and sundries for 'Structure'[6]	
	External architectural works (non-structural)	Façade	Non-structural external walls and features
			External wall finishes except cladding
			Facade cladding and curtain walls
			External windows
			External doors
			External shop fronts
			Roller shutters and fire shutters
		Roof	Roof finishes

[5] Insulation, waterproofing, screed, connections, fittings or elements for drainage, elements for services that are inserted or applied together with the substructural works but which are not already counted under specific entries in this Table 4 or elsewhere.

[6] Fireproofing, insulation, waterproofing, screed, connections, fittings, ramps, permanent formwork, mezzanine structures, supports for tiered seating, maintenance routes or other elements that are inserted or applied together with the structural works but which are not already counted under specific entries in this Table 4 or elsewhere.

			Skylights
			Waterproofing
			Insulation
			Roof landscaping (hard and soft)
		Composite work, prefabricated work and sundries for 'External architectural works (non-structural)'[7]	
Core	Internal or under cover architectural works (non-structural)	Internal divisions	Non-structural internal walls and partitions
			Insulation
			Internal shop fronts
			Toilet cubicles
			Moveable partitions
			Cold rooms
			Internal doors
			Internal windows
			Roller shutters and fire shutters
			Sundry concrete work
		Fittings and sundries	Balustrades, railings and handrails
			Staircases and catwalk not forming part of the structure, cat ladders
			Built-in[8] cabinets, cupboards, storage, lockers, seating, shelves, counters,

[7] Fireproofing, insulation, waterproofing, screed, connections and fixings to the structure, fittings, ramps, shading devices, louvres, eaves, insect protection, grilled assemblies, parapets, railings, green walls, chimneys or other elements that are inserted or applied together with the external architectural works but which are not already counted under specific entries here or elsewhere.

[8] Built-in refers to the incorporation of the relevant building features during the construction stage and prior to handover of the building to the owner.

			benches
			Built-in decorative features
			Access panels
		Finishes under cover	Floor finishes (internal and external (that is to say, under cover or in balconies))
			Internal wall finishes and cladding
			Ceiling finishes and false ceilings (internal or external)
			Insulation
		Composite work, prefabricated work and sundries for 'Internal or under cover architectural works (non-structural)'[9]	
	Building services and equipment: Water and wastewater-related systems	Sanitaryware	Toilets, cisterns, shower trays, bathtubs, taps, controls, shower heads, basin units, sinks, instant hot water heaters
		Cold water systems	Thermostat, thermal meters, cold water meters, pumps/booster set, other meters, pipework, pipe insulation, support/hanger, frost protection and trace heating equipment
		Cold water storage	Storage tank plus any treatment and filtration system for water quality control
		Surface water / rainwater / foul water	Piping, insulation, support, rainwater storage tank,

[9] Fireproofing, insulation, waterproofing, screed, connections and fixings to the structure or maintenance routes, framing, sealing, adhesives, floating floors, sprung floors, finishes, line markings, trim, skirting, fittings, ramps, grilled assemblies, parapets, railings, fireplaces or other elements that are inserted or applied together with the internal architectural works but which are not already counted under specific entries in this Table 4 or elsewhere.

		drainage	attenuation, outlets, pumps, downpipes, sewage piping, condensate piping, insulation, support, cistern, traps, pump, drain
		Water reuse systems	Grey water / rainwater harvesting storage tank, pipework and treatment equipment inside the building line
	Building services and equipment: Heating systems	Heat and hot water generation equipment	Gas/electric boiler, air/water/ground heat pumps, chiller, local water heater, wood burning stove, biomass boiler, solar thermal heating and hot water systems. Communal heating systems located within the building's footprint are included in this scope up to the point of the meter. Beyond the meter, these systems are considered part of the distribution network. Pit and manifold shall be included even if outside the building footprint. Plate heat exchanger that connects to a district heating network. Hot water generation equipment (for example, calorifier) shall also be included.
		Heat and hot water distribution, control, ancillaries, emitters, exchangers/ terminal units	Electric radiator, wet radiator, underfloor heating, heat interface unit, plate heat exchanger, pumps, mechanical switchboard, pressurisation unit, dosing pot, branch circuit (BC) controller, dehumidifier, vibration mounts, thermostat, thermal meters, hot water meter, pipework, pipe insulation, support/hanger, frost protection and trace heating

			equipment
		Heat storage equipment	Hot water store, buffer vessel, expansion vessel
	Building services and equipment: Dedicated cooling systems (if a system does both heating and cooling, it shall fall within the scope of 'heating systems' only)	Cooling generation equipment	Cooling tower, fan coil units, air conditioner.
		Cooling emitter, exchangers/ terminal units, ancillaries and control, distribution, storage	Cold water store, buffer vessel, expansion vessel for cooling, pumps, mechanical switchboard, pressurisation unit, dosing pot, BC controller, dehumidifier, vibration mounts, thermostat, thermal meters, cold water meter, pipework, pipe insulation, support/hanger, frost protection and trace heating equipment
	Building services and equipment: Ventilation systems	Air movement	Fans, mechanical ventilation with heat recovery, air handling units, ceiling fans, kitchen ventilation, air curtains
		Air terminals	Diffusers, grilles, variable air volume systems, constant air volume systems, louvre
		Ductwork and ancillaries	Ductwork, insulation, support, fire-rated ductwork, support
		Control dampers, attenuation and fire safety related to ventilation equipment	Variable air volume damper, volume control damper, fire damper, fume and smoke extraction, motorised fire smoke damper, staircase pressurisation, fire-rated fans, pressure relief dampers, controls, louvres, gas extract, acoustic attenuation

	Building services and equipment: Lighting systems	Internal lighting	Internal light fixtures, outlet, junction box, socket, light control, cable, switch
		External lighting (building mounted)	Lamps/ poles/ supports etc. that are building mounted. External light fixtures, outlet, junction box, socket, light control, cable, switch
		Emergency lighting	Emergency lights, controls, cable, switch
		Other lighting	Task lighting, stage/entertainment lighting, retail display lighting, architectural lighting including associated light fixture, outlet, junction box, socket, light control, cable, switch
	Building services and equipment: Electrical services for power, communications, security, IT and fire detection	Electrical power	Includes internal and building-mounted installations. Power cable, cable trays containment, panel board/ distribution, back up equipment, busbar, transformer, sockets/ switches, floor boxes, sensors, high voltage, medium voltage, low voltage, small power, containment
		Extra Low Voltage (ELV)/ communications/security	ELV systems. Communications and audiovisual equipment. Security: Closed circuit Television (CCTV) equipment, security sensors and alarms.
		IT and data	IT equipment: anything related to data, for example, Wi-Fi equipment, server, backbone and structured cabling, computers, printers, data cabinets, patch panels

		Building management system (BMS)	BMS/controllers on fan coils, outstation, main controller system with computer (headend), cabling required, control valves, sensors for temperature statistics
		Electricity backup generation	Uninterruptible power supply (UPS), backup generation, battery supply, standby generators within the building line
		Fire detection and alarm	Fire alarm systems including detection, cabling, firefighting panel and final call unit
	Building services and equipment: On-site renewable energy generation	Renewable energy - electrical generation on-site and building mounted	Solar photovoltaic (PV) panel, inverter, wind turbine, water turbine building mounted or within building footprint
		Renewable energy - storage on-site	Battery within building footprint
	Building services and equipment: Life safety, fuel and movement system installations	Sprinkler system	Pipes, heads, valves, tank, hose, pumps
		Firefighting systems	Dry and wet riser, hydrant, within designated building footprint, automatic opening vent (AOV) controls/sensors, fire suppression system
		Lightning protection / earth bonding	Lightning conductor, earth rods
		Fuel installations	All fuel supplies other than electric, anything pumped or pressurised. Gas equipment: connection, gas meter, pressure regulator, pipes, valves. Fuel storage tank on site, dry stores. Augers.

		Lift, stair lift, lifting platform	Systems for lift, stair lift, lifting platform shall be included. Power to those systems shall be included in electrical installations
		Escalators and moving walkways	Systems for escalators and moving walkways shall be included. Power to those systems shall be included in electrical installations
	Building services and equipment: Waste disposal systems	Specialised and communal waste disposal systems	Waste incinerators and any systems for waste streams and disposal installation
		Composite work, prefabricated work and sundries for 'Building services and equipment'[10]	
External works (Optional)	External roads, paths, paving and other surfaces suitable for traffic of people or vehicles which are within the building plot area	Roads and paths designed for foot or vehicular traffic	Preparation of sub-base works including treatment, laying, levelling, grading and compacting shall be included Blinding, in-situ concrete including formwork, reinforcement, connections, drainage/weed membranes, kerbs, edgings, accessories, surface applied pavement/road/pitch markings, worked finishes. e.g.: - Coated macadam or asphalt finishing - Masonry, paving, tiles, cobbles, setts - Gravel, stone chippings, wood-chipping - Grass perforated matting - Surfaces designed for
		Footpaths	
		Pavings and soft surfaces designed for foot traffic	

[10] Any other fixtures, fittings or other elements that are inserted or applied together with the building services, system and infrastructure but which are not already counted under specific entries in this Table 4 or elsewhere.

			playgrounds, sports or other specialist uses - All systems required to manage surface water drainage and/or attenuation - Steps, staircases and ramps (including sub-structure, formation and final finish) outside of the designated building line
	External fittings and fixtures for the delineation of exterior spaces, boundaries and zones of the building plot area and fore aesthetic purpose	External fencing	Timber, metal, concrete, masonry fencing, railing, gates, walls, dwarf walls that are external and not part of the building thermal envelope and are new shall be included Vehicle and pedestrian barriers that are required to take a specific loading for protection purposes, with associated gates, shall be included Sub-structure requirements, components, posts, fixings, ironmongery, accessories like copings, powered equipment, controls and final finishes shall be included This category includes retaining walls that are not part of the building, usually formed from concrete, timber or masonry, including all sub-structure/piling requirements, reinforced earth, drainage requirements, membranes, components, fixings, accessories like copings, joints, preservatives, final finish, gabions
		External railings	
		External walls	
		External fixtures	Site street furniture including gates (where not

			part of fencing or barriers), turnstiles, fixed/collapsible/removable bollards, seats, benches, tables, litter/grit containers, poster displays/notice boards, cycle stands/sheds, directional signage, flag poles, external sports/playground equipment, minor footbridges, bus stops, shelters, telephone boxes, post boxes, sculptures/external works of art, ornamental water features including any sub-structure, tanks, components, pipework, controls and equipment required
	External building services. *General note: this category contains all services not affixed to the building or accommodated outside the building footprint*	External drainage	Foul water/ surface water/ land drainage below and above ground, from first manhole beyond the enclosing wall of the building, the sewer connection or other outfall (for example, on-site sewage treatment facility). Trenches, pipelines, fittings, beds, backfill, cradles, supports, connections, gullies and gratings (for example, on roads) shall also be included. Packaged pumping stations, outfalls/outlet heads, final coatings, prefabricated channels, chambers, manholes, channels, soakaways, cesspools, petrol interceptor units. Any alterations, repair works, filling or cleaning of existing drainage systems, manholes and gratings shall also be included. Installations related to

			sustainable urban drainage systems (SUDS) (not planted), Drainage of hazardous liquids like chemicals and industrial liquid waste shall also be included
		External services – water	Piped water supply systems bringing water from the statutory undertaker's mains to the point of entry into the building, including distribution to external user points (for example, external plant and equipment and fire hydrants). Fire hydrants/ rainwater recycling/ grey water recycling outside designated building line. Tanks, pipework, trace heating, insulation, connections shall also be included
		External services – electricity	Distribution of high voltage electricity from the statutory undertaker's supply to an on-site transformer station, distribution of low voltage electricity from the on-site transformer to the main switchgear panel within the building and external installations for providing

			electricity, including emergency or standby generators. Cables, wiring, boards, trunking, access covers, connections, distribution, trenches, pits, packaged/transformer sub-stations, UPS installations shall also be included
		External services – gas	Piped natural gas supply systems taking gas from the statutory undertaker's mains to the gas meter; and taking liquefied petroleum gas (LPG) from external storage vessels to distribution point, including mains gas supply and distribution of gas supply to external user points (for example, to external plant and equipment). Distribution, access covers, connections, trenches, pits, storage tanks/ bottles shall also be included
		External services – telecommunications and similar	Connection of telecommunications systems, cable television, internet and other communication systems from statutory undertaker's or other service provider's supply to the main distribution point within the building. Cables, wiring, boards, trunking, access covers, connections, distribution, trenches, pits shall also be included
		External services – fuel storage	External fuel storage and piped distribution systems. Storage tanks and vessels external to building, and piped supply systems distributing oil, petrol or diesel from storage tanks or vessels to the entry point

			within the building or to external plant and equipment. Distribution, pumps, valves, insulation, access covers, connections, monitoring equipment, trenches, pits, storage tanks/bottles shall also be included
		External services – lighting	External site/street lighting systems including for pedestrian areas, paths, roads, illuminated traffic signs, external lighting. Cables, wiring, boards, trunking, access covers, connections, distribution, trenches, pits, controls and the luminaires/lamps themselves shall also be included, including lighting for sports pitches
		External services – security systems	Security systems including CCTV, camera poles, general external power supplies for security equipment and specific security lighting
		Composite work, prefabricated work and sundries for 'external building services'[11]	
	External buildings[12]	Small ancillary buildings	Separate external small ancillary buildings related to the building systems and normal functioning of the building and site access, including boiler houses, sub-station buildings, fuel storage buildings, bicycle

[11] Any other fixtures, fittings or other elements associated with the installation of water, gas, electricity, heating, ventilation, above-ground drainage, telecommunications and other services, including ducts, protective coatings, holes, chases, sleeves, covers, fire stopping, labelling, and bases, etc, which not included elsewhere.

[12] Refers to buildings that are external to and structurally independent of the assessed building, but which are located within the curtilage of the assessed building and servicing the assessed building occupiers and/or assessed building technical systems and infrastructure. Structural independence shall be understood as a lack of shared foundations and other load-bearing structural elements.

			stores, sheds, storage units and guard huts
		Independent parking structures[13]	Above-ground or below-ground structures that are for the exclusive or shared use by building occupants
		Composite work, prefabricated work and sundries for 'external buildings'[14]	

8. RESULTS OF LIFE-CYCLE GWP

For the purpose of reporting the results in the EPC of the building, the building's life-cycle GWP shall be reported in a transparent format, showing results at least for each life-cycle stage in accordance with Table 5.

Table 5 Disclosure of the life-cycle GWP in the building's energy performance certificate (EPC)

	Product stage (A1-A3)	Construction process stage (A4-A5)	Use, maintenance, replacement stage (B1-B4)	Operational energy use stage (B6)	End-of-life stage (C1-C4)	Reuse, recycling, recovery potential (D1)	Potential benefits and loads from exported utilities (for example, electrical energy, thermal energy, potable water) (D2)
GWP-total[15]							

[13] Parking facilities which do share structural elements and that fall within the envelope of the building structure shall not be considered as external buildings but instead as a part of the whole building, thus counting their associated embodied carbon, operational carbon and floor areas in the analysis. On the contrary, for independent parking structures that are considered as external buildings, their associated embodied carbon and operational carbon may be considered in the analysis, but not their floor areas. In cases where a parking facility is part of a shared structure between more than one building, either the whole complex of buildings shall constitute one single assessment, or the embodied carbon impacts and floor area of the parking facility shall be allocated on the basis of the relative shares of parking spaces that are designated to each building.

[14] Any other fixtures, fittings or other elements associated with the construction of external buildings which are not included elsewhere.

[15] GWP-total is the sum of GWP-fossil, GWP-biogenic and GWP-land use and land use change.