

APPENDIX D – EPBD RECAST

197. This section describes the added requirements of the recast Energy Performance of Buildings Directive (EPBD2) with regards to the calculation methodology and output reports.

Primary energy consumption

198. A value for the total primary energy consumption by the Actual building will be calculated, based on the predicted delivered energy consumption for each fuel and the corresponding primary energy factors, as defined in Table 25, and will be reported in the BRUKL (compliance output document) summary.

199. When calculating the building's primary energy consumption, any electrical energy generated by renewable technologies (principally photovoltaic (PV) systems and wind turbines) must be disregarded. However, electrical energy generated by CHP generators will be counted towards reductions in the primary energy use, i.e., the reported value for primary energy consumption will be net of any electrical energy displaced by CHP. In other words, the following approach must be followed:

- a. Calculate the annual electrical energy used by the building irrespective of source of supply. Multiply that energy use by the grid-supplied primary energy factor.
- b. Calculate the electricity generated by any on-site CHP system and multiply that by the grid-displaced primary energy factor, irrespective of the proportion of the electricity that is used on site and how much is exported.
- c. The electricity-related primary energy of the building is the net figure i.e., 'a minus b' above.
- d. Any fuel used in generating the electricity (e.g., in a CHP engine) is added (at its appropriate primary energy factor) along with any other fuels used in the building (at their respective primary energy factors) to arrive at the building's total primary energy consumption.

Alternative energy systems

200. Software tools will include additional questions for the user to confirm that the designers have considered, in the new building design, the technical, environmental, and economic feasibility of 'high-efficiency alternative systems', as defined in the recast EPBD2 (renewable energy systems, CHP, district heating/cooling, or heat pumps), and to confirm that there is documentary evidence of the feasibility assessment. They should also be asked if they have included any such systems in the proposed design solution. The answers to these questions will be reported in the BRUKL (compliance output document) summary.