Embody energy is the energy embodied in building materials. The embodied energy of building materials is the energy required to produce the materials, including the energy required to mine, transport, fabricate, deliver, and install the materials. This energy includes the energy required for the extraction of raw materials, the energy required to transport the raw materials, the energy required for the manufacture of the materials, the energy required for the transportation of the materials to the site, the energy required for the installation of the materials, and the energy required for the disposal of the materials.

The embodied energy of building materials can be calculated using a variety of methods. One common method is the use of embodied energy coefficients, which are values that represent the energy required to produce a unit of material. These coefficients can be used to calculate the embodied energy of a building by multiplying the embodied energy coefficient of each material by the amount of that material used in the building.

The embodied energy of building materials can have a significant impact on the overall energy use of a building. Buildings with a higher embodied energy will require more energy to operate over their lifetime, which can result in higher energy bills and increased greenhouse gas emissions.

To reduce the embodied energy of buildings, designers and builders can use materials with lower embodied energy coefficients, such as wood-based materials, which have much lower embodied energy coefficients than other materials. They can also use recycled materials, which can have lower embodied energy coefficients than new materials.

In addition to using materials with lower embodied energy coefficients, builders can also reduce the embodied energy of buildings by improving the energy efficiency of the building itself. This can be done by using energy-efficient building materials, improving the insulation of the building, and using renewable energy sources such as solar power.

Overall, reducing the embodied energy of buildings can have a significant impact on reducing greenhouse gas emissions and improving energy efficiency. By using materials with lower embodied energy coefficients and improving the energy efficiency of buildings, designers and builders can help to create a more sustainable and energy-efficient built environment.