# Seaweed for renewable building materials

**Researchers**
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**Focus**
In this research we want to identify potential streams of seaweed that can be utilized for building material with an assessment on the environmental impact.

**Innovative idea and objective**

The idea arose from the fact that not all seaweed is suitable for these applications and to fully use the potential of seaweed sources other options can be considered.

**Relevance to the materials transition in textiles and/or building materials?**

By using seaweed as a building material a novel resource is exploited, filling the demand and reducing the demand for arable land, and additionally resolve the problem of a waste stream. Furthermore, with seaweed available in almost all coastal communities it can provide an income for local communities improving livelihood in poorer regions of the world. If seaweed can be used, it can be a new and green source for building materials, fully contributing to the material transition for building materials.

**What did you do?**

The research involved the identification of potential sources of seaweed, not suitable for known applications but highly suitable for construction materials and the ecological impact of utilizing such resource. The next step was to do a market research if this was done already, and if so how this was done. An important practical step in this research was to collect seaweed and apply multiple processing steps and methods to produce a small plate in order to evaluate further development leading to application for construction purposes. The work identified three streams of seaweed and a small number of initiatives that use seaweed in some sort of construction material.

**Main result, achievement and highlight**

Initial testing of the production of plates showed that the tested seaweeds on their own were not suitable for the production of panels and boards. We therefore mixed seaweed with a product of low value but with high cellulose content: reed. The outcome of this research were plates that are of rather high potential to be further developed in construction plates. Improvements could be made in using different (pre)processing methods or other ratio’s between seaweed and reed.

**Visual abstract**