

## Media Release

Global Communication

Georg Fischer Piping Systems Ltd.  
Ebnatstrasse 111  
8201 Schaffhausen  
Switzerland  
[www.piping.georgfischer.com](http://www.piping.georgfischer.com)

Katharina Aeschlimann  
Head of Media Relations  
Tel +41 (0) 52 631 3374  
[presse.ps@georgfischer.com](mailto:presse.ps@georgfischer.com)

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### **Algae – raw material of the future grown in bioreactors made with plastic pipes**

**GF Piping Systems is closely involved in the research and development of the first bioreactors for algae production available in Europe and the USA. The new piping system designed for this application is made of transparent plastic. The successful collaboration with development partners LGem (NL), TH Wildau (D), Texas University in Austin (USA) and AlgEternal (USA) has led to the release of the first bioreactors for algae cultivation.**

In cooperation with LGem, tests for cultivating special aqueous algae in bioreactors have been running successfully since 2007. In 2010 the Technical University Wildau in Berlin joined the project as another development partner. Professor Franz Xaver Wildenauer, TH Wildau/Berlin, reports: “The potential of the new biotechnology is huge and so are the necessary investments, which is why we are conducting applied research together with our partner GF Piping Systems.”

The high-performance pipes and fittings for the bioreactors were developed by GF Piping Systems. The engineers succeeded finding the right balance between the amount of light which passes through and the durability of the material because plastics such as polyvinylchloride (PVC) undergo changes when exposed to sunlight over long periods of time. The new piping system features high UV resistance and promotes or accelerates biomass production through photosynthesis. For the development of these special pipes, GF Piping

Systems already received the international “Gold Solvin Award“ for innovation in 2010.

Algae are often called the raw material of the future. There are over 40,000 different types of algae. Because of their high sugar, starch, oil and omega3 fatty acids content, a productivity which is seven times higher than corn can be realized. These cultivated plants can be processed into biomass and biofuel. Furthermore, the organisms bind carbon dioxide (CO<sub>2</sub>), which they require for growth.

At present, diverse processes are being examined on connecting bioreactors to power plants. This should lead to a reduction in environmentally hazardous CO<sub>2</sub> emissions, while at the same time creating biomass.

Biomass is highly sought-after in the cosmetic industry and in food production, such as fish food. The biodiesel gained from algae is considered a fuel of the future in the USA.



Algae growth in bioreactors  
Photo source: GF Piping Systems



Professor Franz Xaver Wildenauer, TH Wildau/Berlin



**Georg Fischer – Adding Quality to People’s Lives**

GF Piping Systems is one of three companies within the Georg Fischer group and a leading supplier of plastic and metal pipe systems with a global market presence.

Our portfolio offers connection technology, fittings, fixtures, sensors and pipes for the treatment and distribution of water as well as the safe transport of industrial fluids and gases. GF Piping Systems supplies leading innovative technical solutions for domestic engineering applications, the chemical process industry, cooling, life sciences, the microelectronics, shipbuilding, energy, water and gas supply industries as well as potable water treatment. Our distributors in more than 25 countries and representatives in a further 80 countries guarantee customer service around the clock. Production facilities in Europe, Asia and the US are customer focused and comply with all local requirements. Georg Fischer’s registered offices have been located in Schaffhausen, Switzerland, since the company was founded in 1802.

**Key figures - GF Piping Systems 2011**

More than 5'040 employees worldwide (as of 1 March 2012)

1174 million CHF turnover

137 million CHF EBIT (earnings before interest and taxes)

Further information is available from [www.piping.georgfischer.com](http://www.piping.georgfischer.com)