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## PRESS RELEASE

### Polycarbonate sheets - the material for a sustainable greenhouse

Polycarbonate sheets are being used more and more in the horticultural sector due to their excellent thermal insulation, high impact-resistance and load bearing qualities. These qualities provide growers with some outstanding benefits.

When choosing a greenhouse glazing, a number of aspects have to be taken into consideration like climatic conditions, crop selection and its value, but also equipment installed inside a greenhouse.

Some of the advantages of PC greenhouses is the simplicity of their structure, lower cost as well as agronomical benefits. Lightweight glazing requires less metal supports, thus the overall cost of a PC greenhouse project, glazing and systems included, can be up to 25% less than its equivalent in glass. The benefits of a lightweight structure are manifested not only by cost of construction, but also by agronomical factors. Roofs designed for PC glazing offer a larger surface for the light to penetrate and less shadow by the metal roof purlins and frames. Interestingly a standard PC greenhouse structure would have up to 7% more transparent surfaces than an equivalent size glass house.

There are a few growing trends where PC greenhouses have an advantage over other materials. First of all, rooftop greenhouses are a perfect solution for crowded urban and industrial zones. The light weight of PC sheets has a minor influence on the overall construction of the building. The concept of a rooftop greenhouse brings the grower closer to the customer whilst saving space and energy.

Moreover, converting old polyethylene greenhouses into polycarbonate ones gives them an advantage of being resistant to extreme weather conditions. In such projects a specific engineering plan is required. The challenge is to maximize the structure's load bearing abilities with minimal metal shield modifications. Additional purlins and structural modifications should be planned as 20%-30% of the retrofitting investment that will take the greenhouse to the next level.

Lastly, retrofitting corrugated polycarbonate over old glasshouses and eliminating the high maintenance costs of glass-made constructions while retaining the same structure is perhaps the most interesting trend. It is possible to fit the corrugation to the existing metal structure. One PC panel can cover the width of 2 glass windows or more, at the same time providing impact resistance without adding a single metal plank to the existing structure.

With optimized corrugation, growers can improve the light penetration into greenhouses, especially during the early mornings and late afternoon, when the sun is at a low angle over the horizon. When the sun is 10° over the horizon corrugated PC panels will deliver 50% more light into the greenhouse than standard greenhouse glass.

With the right approach and on-site guidance for tailor-made projects, PC sheets manufacturers can help growers to achieve significant results. When developing a tailored-made project very specific variations – such as solar energy and light transmittance, light diffusion, thermal insulation considerations, and even selective light transmittance (transmittance of waves at defined lengths only) are taken into consideration so that that final product is suited exactly to the needs of each client.

Polycarbonate sheets, with their excellent insulation and translucent properties, provide growers with a multitude of benefits and are a perfect alternative to the materials that were used in the construction of greenhouses in the past.

**LINK:** <http://epse.org/news/polycarbonate-sheets-the-material-for-a-sustainable-greenhouse/>

*EPSE is a sector group of the European Plastics Converters and represents the 11 major polycarbonate sheet producers manufacturing over 120 000 tonnes of polycarbonate sheets every year, as well as 3 resin producers. EPSE comprises more than 1 000 employees and generates a turnover of over 500 million € per year.*

**Press Contact:** Emilia Tarlowska - Communication Officer, EPSE c/o EuPC, Avenue de Cortenbergh 71, 1000 Brussels – Belgium T: +32 273 96 376, F: +32 2 732 63 12, [emilia.tarlowska@eupc.org](mailto:emilia.tarlowska@eupc.org); [www.epse.org](http://www.epse.org); [@PCsheets](https://twitter.com/PCsheets)