An industry's answer to the climate change talks

The Two Team Project

Eight breakthrough technologies for the 2050 world

Background

In November 2011, the Confederation of European Paper Industries (CEPI) launched the Forest Fibre Industry 2050 Roadmap, looking at how the sector could reduce its fossil-based CO2 emissions by 80% while at the same time creating 50% more added value. One of the key conclusions was that breakthrough technologies would be needed by 2030 to achieve these targets. A year later, the European paper industry decided to take its future in its own hands by setting up the *Two Team Project.*

This unique project challenged two teams to compete against each other for one year. The teams consisted of researchers, scientists, manufacturers, suppliers and other representatives from the pulp and paper industry as well as other sectors. The task was simple: think outside the box and identify breakthrough technology concepts that would give the industry the means to achieve the above-mentioned targets.

The two teams did indeed take a giant leap forward, producing an astonishing result: eight breakthrough technology concepts. Taken as a whole, these concepts are a testament to the strong promise of carbon-friendly innovation in our sector.

Here are three of the eight concepts:

Deep Eutectic Solvents (DES): a ground-breaking discovery

Deep Eutectic Solvents (DES), produced by plants, opened up the way to produce pulp at low temperatures and at atmospheric pressure. By using DES, any type of biomass could eventually be dissolved into lignin, cellulose and hemicellulose with minimal energy, emissions and residues. They could also be used to recover cellulose from waste and dissolve ink residues in recovered paper.

Superheated steam drying: using more energy to use less energy

Using the full power of pure steam for superheated steam drying would save energy, as most heat could be recovered and recycled. The steam would be used as a fibre carrier for making and forming paper.

DryPulp for cure-formed paper

A papermaking process that uses no water: fibres would be treated to protect them from shear, and then suspended in a viscous solution at up to 40% concentration. The solution would then be pressed out and the thin sheet cured with a choice of additives to deliver the end-product required.

Now what?

The winning concept, Deep Eutectic Solvents is already being developed by the University of Eindhoven with the support of a consortium of 23 European organisations. The consortium is one of the seven Research and Innovation actions (RIAs) to have received EU funding via the Bio-based Industries Public-Private Partnership (Bio-PPP), under the name PROVIDES – New sustainable pulping technologies. The first promising results seem to be within reach.

If you wish to learn about the other concepts, or be kept informed about the progress of the Two Team Project concepts, please send an email to mail@cepi.org. For press inquiries, contact Annie Xystouris at a.xystouris@cepi.org or +32 4 862 43 642.