

PÖYRY POINT OF VIEW - DECEMBER 2015

A glass vial sits on a forest floor covered in green moss. The background is a blurred forest scene with sunlight filtering through the trees. In the bottom left corner, there is a white graphic of a molecular structure with interconnected hexagons and lines.

# How we can pay down the carbon debt and grow the forest industry

# How we can pay down the carbon debt

All eyes are on Paris as world leaders come together to reach a global climate deal. There is much talk of COP21 being our “last chance” to construct a framework that will limit global warming to two degrees Celsius from pre-industrial levels. An important role will be played by the world’s forests in the years ahead if we are to avoid that scenario. This was the message taken by Pöyry to COP21 attendees during one of the conference events on 1st December.

**WE HAVE LOST 130MHA** (million hectares) of forest land since 1990. This has a doubly negative effect on carbon emissions since burning a forest emits emissions whereas growing one captures carbon from the atmosphere. It can be difficult to properly grasp the size of carbon emissions and forests given the scales involved. Here are some useful numbers. Each person in the EU has an inherited debt of around 650 tCO<sub>2</sub> since

the Industrial Revolution. On the flipside we also have the equivalent of about 420 trees each. This equates to 80 tCO<sub>2</sub> which we can use as a down payment of our debt of 650 tCO<sub>2</sub> leaving us with approximately 576 tCO<sub>2</sub>.

**THAT REMAINS A VERY LARGE FIGURE** and we would actually need just over 3,000 trees each to pay down our debt in 15 years. Planting in the tropics would allow us to do this faster but whether in Europe or Latin America we must think of land as a



limited resource too. If we look at projections of land required for future agricultural demand, industrial forests and bioenergy, and the additional available land, there is a deficit of approximately 250Mha.

130

Since 1990, we have lost 130 million hectares of forest land

3000

We would actually need just over 3,000 trees each to pay down our debt in 15 years



#### JUST 10MHA OF REFORESTATION

would achieve a CO<sub>2</sub> neutral EU as yearly emissions will be offset by yearly carbon capture. But the benefits don't just end with carbon capture. Looking ahead, there are exciting and profitable opportunities in the bioeconomy with biobased components like fibre, lignin, sugar and nanocellulose. Combined with fossil based materials, we can explore a brave new world of composites, with countless possibilities for materials innovation.

#### WHY IS THIS SIGNIFICANT?

A 1% shift to bioplastics that helps us to clean the environment also results in 3.5 billion euros of business per annum. For biopackaging, the same 1% transition away from purely fossil based materials results in 6 billion euros per annum.

The debate on climate change can appear at times a battle between continued development and deindustrialisation. This is more an outcome of approaching the issue purely from the energy angle as opposed to the full reality. Using modest approximate figures, we have seen here how the forest industry can both contribute to carbon mitigation and simultaneously capitalise on a multi-billion euro business opportunity.

These rough figures demonstrate the clear business and climate case to rethink how we manage and utilise our forests. Reforestation and the burgeoning bioeconomy approach this opportunity from different

angles. Reforestation is about ecology, climate and business whereas the bioeconomy is about new carbon materials and bioenergy.

10

Just 10 million hectares of reforestation would achieve a CO<sub>2</sub> neutral EU as yearly emissions will be offset by yearly carbon capture

1%

A 1% shift to bioplastics that helps us to clean the environment also results in 3.5 billion euros of business per annum

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Staying on top of your game means keeping up with the latest thinking, trends and developments. We know that this can sometimes be tough as the pace of change continues...

At Pöyry, we encourage our global network of experts to actively contribute to the debate - generating fresh insight and challenging the status quo. The Pöyry Point of View is our practical, accessible and issues-based approach to sharing our latest thinking. We invite you to take a look - please let us know your thoughts.

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