

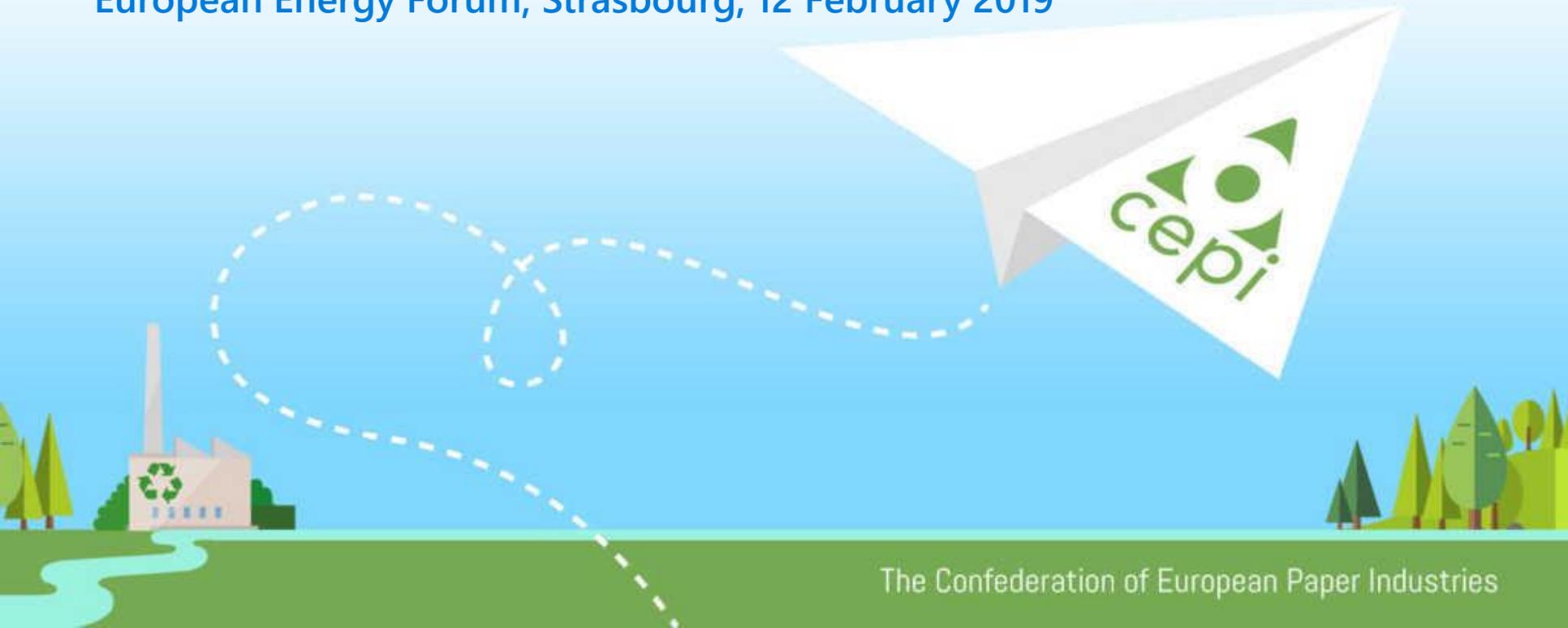
Roads to an affordable energy transition

The perspective of an energy intensive industry

Sylvain Lhôte, Director General

CEPI – The European Forest Fibre and Paper Industries

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We are renewable and recyclable, sourced and made *in* Europe, leading the circular bioeconomy

Introducing CEPI and the European forest fibres and paper industries



Transforming pulp wood into cellulose and bio-based products

>92% sourced in Europe and certified

In 945 mills across Europe

Employing directly 175000 people, exporting 22% of EU production

Keeping the fibres in the loop

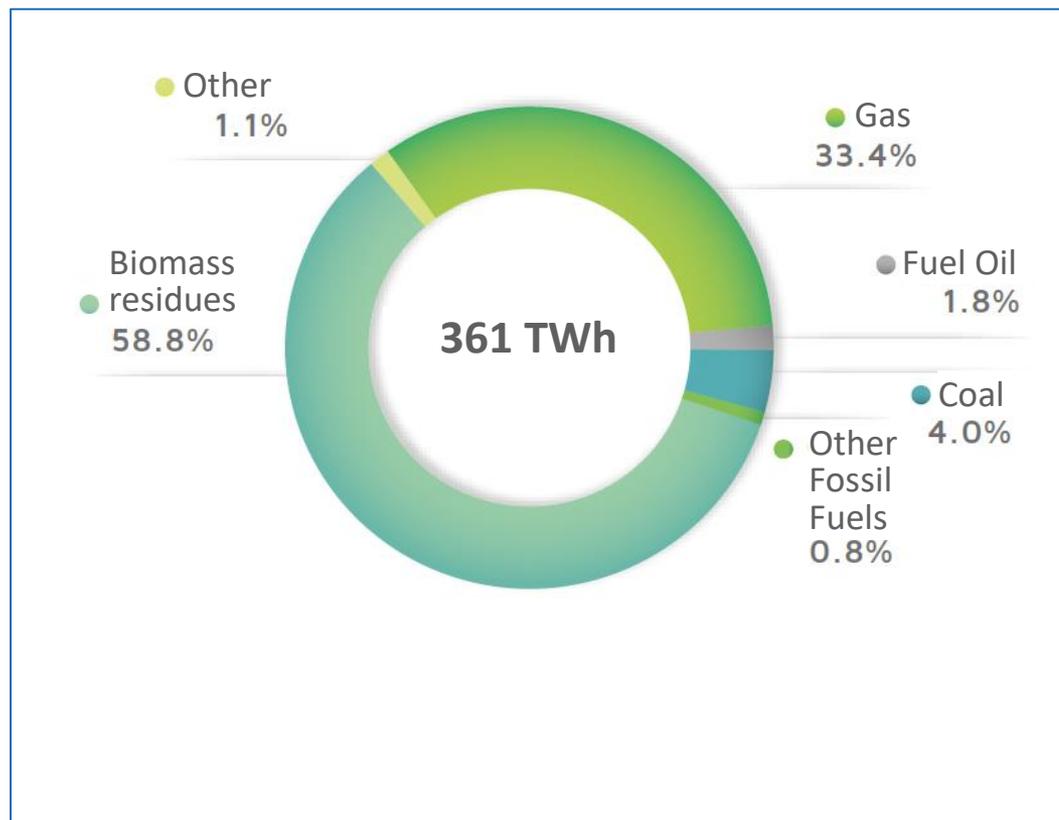
>72% recycling rate of EU paper-based products

Producing

Pulp
Bio-energy
Nano-cellulose
Bio-chemicals
Fibres materials
Print & graphic paper
Packaging
Hygiene
Technical specialties

We are energy intensive, mostly renewable-based but also gas dependant

Energy consumption profile of the European forest fibre and paper industry



Sources: CEPI Statistics 2017

- Total primary energy needs equivalent to the electricity consumption of the UK
- 12-24% of production costs
- Most of industry recycling assets are based on gas
- Self generating our heat and power through CHP
- Selling electricity to the grid – equivalent to Lithuania’s annual power consumption (11,4 TWh)

We have a vision, a roadmap and are investing but energy solutions shall be scaled-up

Options to reduce carbon footprint of gas-based production



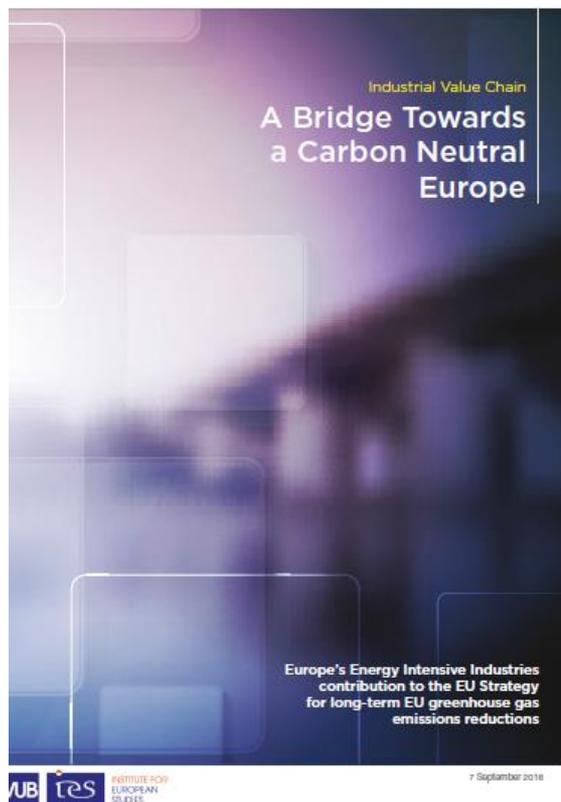
Sources: CEPI 2011-2017 and 2019

Investments and technology options for gas-based assets

- Energy efficiency / process optimisation (on-going)
- Renewable heat (small scale tests)
- Biogas from waste water (pilots)
- Switch to RES electricity (on-going)
- Power to X (considered)
- Process breakthrough (R&D)
- Hydrogen through the grid (long term if any?)
- CCS/CCU (at what cost?)

The availability of low-carbon energy sources will be a challenge for all Energy Intensive Industries

Ell's contribution to the EU GHG emission reduction long-term strategy



- VUB study puts together and assesses Energy intensive industries decarbonisation roadmaps
- Shows EIs are uniquely placed to enable the transition towards a carbon neutral Europe
- Reveals a steady R&D pipeline - expected to deliver technology breakthrough by 2030
- Points at 3 main challenges
 - Designing a truly enabling industrial policy framework to support transition
 - Financing major investments costs to deploy low-carbon technologies on European assets
 - **Limited availability of affordable decarbonised energy sources over the transition phase**

Reference: VUB / IES Tomas Wyns and al.- Sept. 2018

To sum up and introduce our discussion

- ① **Complementarity** – Natural gas is a great fossil energy source to complement RES-e. It will continue playing a key role for manufacturing industry.
 - Are the need of the two properly understood and factored in the LTS?

- ② **Low-Carbon** – carbon neutral gas supplies would enable a significant reduction of industry's footprint but are so far not prioritised and pathways are unclear.
 - Where and when will “carbon neutral” gas be made available at scale?

- ③ **Competiveness** – Major industry assets are based on gas, notably recycling, and, despite efficiency trends, stay exposed to higher energy and ETS costs.
 - How can the energy transition and ETS sectors transformation be phased over time to avoid impacting EU manufacturing industry cost-competitiveness?

Thank you

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