

Renewable gas for production Renewable etissue production Fossilfree tissue production

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## Production of tissue paper is based on fossil fuel

Today, most tissue drying processes make use of directly fired LPG or natural gas in order to provide a hot flue gas stream which is blown through the drying hoods of a yankee cylinder in order to dry the paper.

This combustion of fossil gas is today the main source of greenhouse gas emissions from the tissue industry.

### Reduction of CO<sub>2</sub> is needed and requested by consumers



In the 2050 low-carbon road map, the paper industry association CEPI has stated that the industry needs to decarbonize with 80% compared to 1990's level.

Replacing the fossil gas used for tissue drying with renewable gas is a necessary key to enable substantial cuts in CO<sub>2</sub> emissions.

# Combustion of fossil fuel for paper drying is the largest emission source in the paper industry



Needed decarbonization of forest and paper industry by 2050 target in million ton CO2. Data from CEPI: "Investing in Europe for Industry Transformation - 2050 Roadmap to a low-carbon bioeconomy"

## Replace natural gas/LPG with renewable gas, produced locally

Meva Energy provides solutions for biomass energy systems being decentralized and utilizing local residues. Thereby small, circular energy systems with a minimum of transportation and parasitic losses are created.

With a Meva Energy unit at the tissue mill, fossil CO<sub>2</sub> emissions and carbon footprint can cost-effectively dramastically be reduced.



# Prefabricated modular plants for biomass gasification





# Heat generation for tissue drying hoods by renewable gas

Using Meva Energy renewable syngas for tissue drying has been verified in extensive test programs with institutes and suppliers of burners for the tissue industry:

- Stable flame with 100% renewable syngas
- Even and complete combustion
- Very low particle levels in exhaust gas
- No odor or visual damage of tissue
- Functionality with several standard burner types: corner, duct,- and swirl burners
- Possible to co-fire LPG/NG and renewable syngas in same burner
- No need to redesign or expand existing burner chambers.







## Voices about Meva Energy



#### Labelled SolarImpulse Efficient Solution

This label serves as a credible symbol that can be applied to products, processes and services and serves as a guarantee of quality to those looking to implement clean solutions, and affords a competitive edge to the innovators behind them.

"Meva Energy's ability to valorize biomass waste streams and to produce a renewable gas which substitutes fossil gas in industries is an excellent example of how an abundant residue resource can be used to reduce carbon emissions."

- Dr. Christoph Frei, Secretary General World Energy Council





#### Finalist in Low Carbon Energy Production by SET Awards

Meva Energy was selected as one of three finalists of over 100 companies in category "Low Carbon Energy production" by SET Awards. The SET Award is an international competition for start-ups and young companies worldwide who are working on ideas affecting global energy transition and climate change.





#### Winner of EU-China Cleantech Competition

"Meva Energy's innovative biomass gasification technology faces a strong market interest in China. There is a substantial need for circular conversion technologies both in order to reduce and valorize waste streams and in order to produce renewable energy. Further, Meva Energy's approach of producing low-calorific biogas instead of pure biomethane or SNG is a very relevant business model to cut production costs of renewable energy." - Dr Rong Xu, CEO of Umore



