PRESS RELEASE

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SIG'S LATEST INNOVATION PAVES THE WAY FOR MORE LINKS TO RENEWABLE MATERIALS THROUGH MAINSTREAM POLYMER PRODUCTION

WORLD'S FIRST ISO-CONFORMANT LIFECYCLE ASSESSMENT FOR MASS BALANCE PRODUCTS CONFIRMS ENVIRONMENTAL BENEFITS OF INNOVATIVE **SIG**NATURE PACK FROM SIG

The environmental benefits of **SIG**NATURE PACK from SIG have been confirmed by a critically reviewed ISO-conformant lifecycle assessment (LCA) – the world's first for a mass balance product.

The **SIG**NATURE PACK from SIG is the world's first aseptic carton pack linked to 100% plant-based renewable materials. The LCA showed significant reductions in environmental impacts across all 10 categories as a result of the substitution of fossil-based polymers with mass balance plant-based polymers made from tall oil (a by-product of paper manufacturing).

The carbon footprint of **SIG**NATURE PACK is – on average across Europe – 66% lower than the carbon footprint of a standard SIG 1-litre carton pack of the same format across its lifecycle, based on the Europe-wide LCA.

> *Udo Felten, Manager Product Related Global Environmental Sustainability & Affairs at SIG, said: "The environmental impacts of every product innovation at SIG are evaluated through Europe-wide LCAs that conform with the rigorous requirements of recognised ISO standards. The results for **SIG**NATURE PACK show that SIG's innovative mass balance approach has significant environmental benefits."*

World's first ISO-conformant LCA for a mass balance product

The polymers in **SIG**NATURE PACK are 100% linked to plant-based material via a mass balance system, whereby plant-based raw materials are mixed in with conventional fossil raw materials to produce the polymers. The amount of plant-based material included in the mix is equivalent to the amount needed for the polymers used in **SIG**NATURE PACK and the totals are balanced through recognised and audited certification schemes to ensure strict traceability and accountability.

The **SIG**NATURE PACK LCA is the first ISO-conformant LCA to take into account the inclusion of materials via a mass balance system. LCAs are traditionally based on the physical contents of a product and the environmental impacts associated with each stage of its production.

The independent, critically reviewed LCA of **SIG**NATURE PACK was conducted in accordance with recognised international standards, ISO 14040 and ISO 14044 by the Institut für Energie und Umweltforschung (IFEU/Institute for Energy and Environmental Research) in Germany.

IFEU agreed to conduct the LCA when it became clear how valuable SIG's mass balance approach could be in making mainstream polymer production more sustainable.

> *Frank Wellenreuther, Project Manager at IFEU, commented: "The application of the mass balance approach in the production of polymers is an important driver to facilitate an increasing substitution of fossil resources by biogenic resources for the production of polymers. To model the examined products strictly on their physical properties would fail to acknowledge this function of the mass balance approach."*

Driving more sustainable plastics

SIG chose a mass balance approach because it supports a wider transition from fossil to bio-based raw materials within the conventional and highly efficient polymer industry, instead of using niche small scale producers with a limited number of plastic grades.

> *Felten said: "With the mass balance approach, SIG offers customers the environmental benefits of linking to 100% plant-based renewable materials, alongside the product quality and functionality which come from grades of polymer that are only available through mainstream production."*

The polymers are supplied by plastic producers, Sabic and BASF, using plant-based renewable material from European wood sources. Tall oil was selected as the feedstock because, as a by-product of paper production, it is a waste material rather than an agricultural crop that requires land and resources to grow.

> *IFEU's Wellenreuther said: "The implementation of polymers based on tall oil via a mass balance system is recommended. The demand for mass balance polymers from SIG could act as a driver to achieve a more significant physical share of plant-based input materials for the production of polymers."*

The **SIG**NATURE PACK is a value-added solution that meets the demands of the industry and today's consumer expectations for more environmentally responsible products. It is one of the latest innovations from SIG as it strives to offer customers the most sustainable food packaging solutions as part of its mission to go Way Beyond Good.

To find out more about the **SIG**NATURE PACK and download the LCA, see https://www.sig.biz/en/packaging/beverage-packaging/signature-pack-details.
For more on Way Beyond Good, see https://www.sig.biz/en/responsibility/way-beyond-good.

About SIG
SIG is a leading systems and solutions provider for aseptic packaging. We work in partnership with our customers to bring food products to consumers around the world in a safe, sustainable and affordable way. Our unique technology and outstanding innovation capacity enable us to provide our customers with end-to-end solutions for differentiated products, smarter factories and connected packs, all to address the ever-changing needs of consumers.
Founded in 1853, SIG is headquartered in Neuhausen, Switzerland. The skills and experience of our 5,000-plus employees worldwide enable us to respond quickly and effectively to the needs of our customers in more than 60 countries. In 2017, SIG produced 33.6 billion carton packs and generated €1.66 billion in revenue. For more information, visit www.sig.biz.

PICTURE CAPTION:

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Photo: SIG

YOUR CONTACT:

Heike Thevis
Press Officer

Tel.: +49 2462 79 2608
Email: heike.thevis@sig.biz

SIG International Services GmbH

Visit us on www.sig.biz or on our blog at signals.sig.biz