

TBM Announces the Concept Model of Alternatives to Single-use Plastic Bags at COP 24

~ Hosts the Event at Japan Pavilion ~

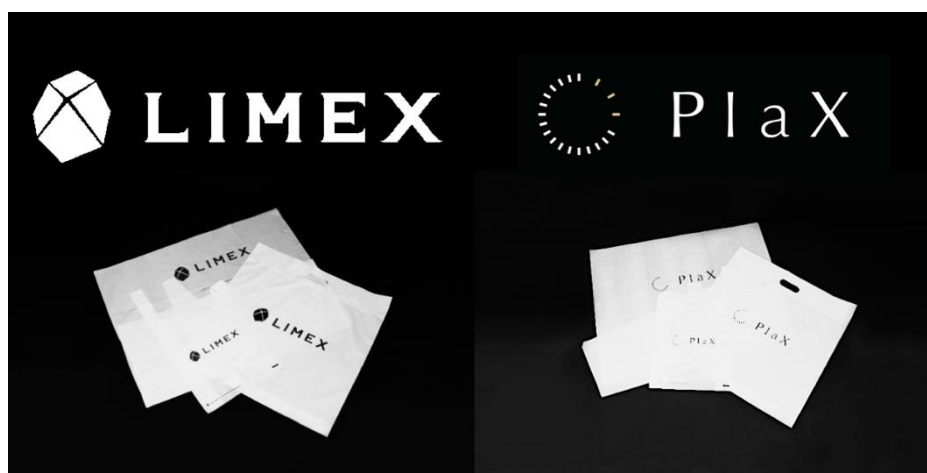
'LIMEX - Limestone paves the road to a de-carbonised circular economy'

TBM Co., Ltd. (TBM), a company that develops, manufactures and sells paper and plastic alternative products made from a limestone-based material known as 'LIMEX', is close to launching LIMEX and Plax bags on the market as alternatives to single-use plastic bags.

Furthermore, TBM is honored to participate in COP24 (Conference of the Parties to the United Nations Framework Convention on Climate Change) as a delegation of Japan. On 12th December 2018 (Local Time 13:15-14:30), TBM will host an event, 'LIMEX - Limestone paves the road to a de-carbonised circular economy', in Japan Pavilion. Here, TBM will introduce the concept model of alternatives to single-use plastic bags made of LIMEX and Plax.



COP24·KATOWICE 2018
KONFERENCJA NARODÓW ZJEDNOCZONYCH
W SPRAWIE ZMIAN KLIMATU



■ Background

Companies today are expected to take actions against environmental issues to achieve the Sustainable Development Goals (SDGs) and to combat plastic pollutions. Regulations against plastics have been enforced in recent months internationally and there is a growing demand for plastic alternative materials.

Anticipating the demand growth for biomass-based biodegradable resin, TBM has announced the 'Biodegradable LIMEX' at 'Brussels SDG Summit 2018' which TBM has partnered with. The Biodegradable LIMEX is composed of limestone as the main raw material and biomass-based biodegradable resin.

Furthermore, by working together with Bioworks; TBM's subsidiary that develops a highly functional modifier for bioplastics, we will promote the market application of Plax (Modified Polylactic Acid Compound), the biomass-based new material.

We strive to contribute to a decarbonized society and a circular economy. Given the situation that only 9 % of plastic waste, which cumulatively accounts for 6.3 billion tons until 2015 globally is recycled, TBM has partnered with local governments and companies to promote 'LIMEX Upcycle' to contribute to raising resource efficiency.

■ Overview of the alternatives to single-use plastic bags made of LIMEX

Plastic packaging including single-use plastic bags accounts for the largest market share in the plastic industry. Considering the plastic waste issue, progressive regulations against single-use plastics, and greenhouse gas emissions, there is significance in replacing the conventional single-use plastic bags with more environmentally friendly material.

Within this context, TBM will introduce the products below at COP24. TBM aims for these products to be launched in the Spring of 2019.

<Alternatives to single-use plastic bags made of LIMEX>



More than 50% of the composition of the material is limestone. This is achieved through the Compound Technology of LIMEX. The material has a silky and stretchy feel despite its main material, limestone. It contributes to the issues of resource depletion and environmental pollution as the usage of oil-based resources is significantly reduced in comparison to the conventional single-use plastic bags.

<Alternatives to single-use plastic bags made of Plax>



The bag is made from a new material by mixing biodegradable resin and limestone and applying the Plax technology. The material degrades into limestone, water, and CO₂ under compost conditions, and contributes to the issue of environmental pollution. The material uses polylactic acid, a relatively hard biomass-based resin as the main material and has a silky and stretchy feel.

■ The event at Japan Pavilion

Title: LIMEX - Limestone paves the road to a de-carbonised circular economy

Date and Time: 12th December 2018 (Local Time 13:15-14:30)

Organizer: TBM

Event Overview:

Part 1 Talk - The Future with LIMEX [30 min]

Resource efficiency driven by circular economy plays an important role to reduce GHG emissions. TBM, the Japanese startup that developed a limestone-based new material 'LIMEX', introduces how it can develop a decarbonized circular economy. Specifically, TBM shares the experiences in sustainability-oriented R&D, international business expansion, and a holistic approach to societal changes by partnering with local governments, academics, partner companies, etc.

Part 2 Panel Discussion - What do we need for a de-carbonized circular economy? [45 min]

Welcoming a panelist, Stefan Crets from CSR Europe, the discussion will cover business-driven approaches for a decarbonized circular economy.

The panelists will touch upon the different contexts that regions have behind the issues, with reference to TBM's strategic and customized approaches to each region. The roles of businesses and the necessary partnerships to solve complicatedly intertwined grand challenges will be explored.

Speaker:

- Nobuyoshi Yamasaki, TBM Co., Ltd., Founder and CEO
- Tomoya Nakamura, TBM Co., Ltd., Global Business Producer
- Wakana Honda, TBM Co., Ltd., Global Strategy Leader
- Tokuro Hatori, TBM Co., Ltd., Sustainability Accelerator
- Stefan Crets, CSR Europe, Executive Director

Event URL: <http://copjapan.env.go.jp/cop/cop24/en/events/2018-12-12/03/>

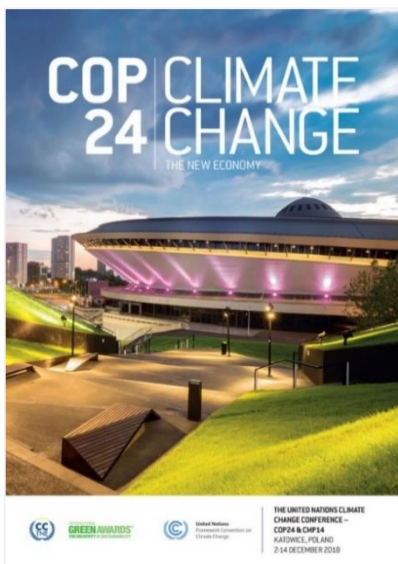
※The introduction of the concept model of alternatives to single-use plastic bags will take part in Part 1

※For CSR Europe, please refer to the information below. <https://www.csreurope.org>

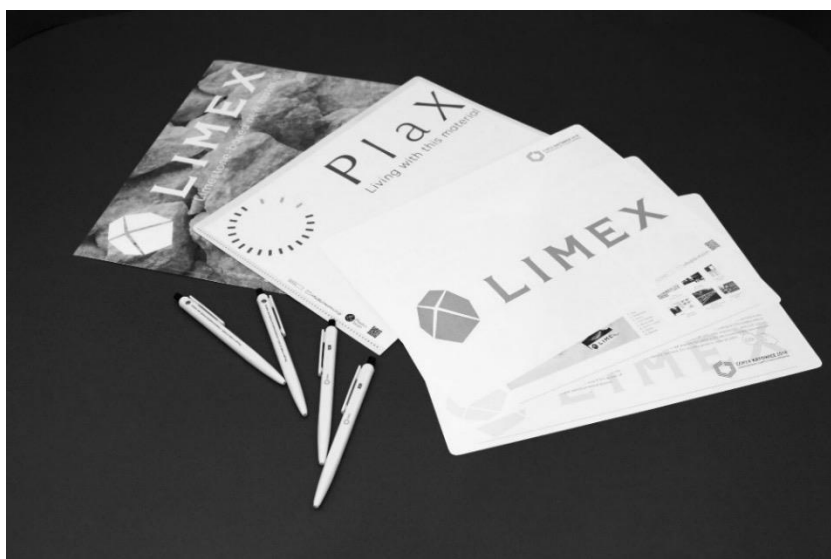
■ COP24 Official Booklet and the LIMEX novelty products distributed at the Japan Pavilion

An article on LIMEX is featured in the COP24 Official Booklet, 'CLIMATE CHANGE The New Economy COP 24 Katowice, Poland'. (<http://publications.climatechange-theneweconomy.com/cop24/86-1>) Through this article, TBM suggests opinions and knowledge regarding ways that LIMEX contributes to decarbonization. Furthermore, the below LIMEX products will be distributed at the Japan Pavilion.

<Official Booklet>



<Novelty Products made of LIMEX>



※ 3 types of table mats, a folder, and a pen will be distributed.

■ Introduction of the new material 'LIMEX'

[What is LIMEX?]

LIMEX is made mainly from limestone. It is an environmentally and economically viable new material that can substitute paper and plastic.

- 2013

TBM was chosen by the Ministry of Economy,

Trade and Industry as one of the Innovation Base Promotion Businesses to be aided by "Subsidy for Advanced Technology Demonstration and Evaluation Facility Development."

- 2014

Patent Approval for the new material technology in Japan.

International patent applications have been approved or await approval in 43 countries.

- 2015

Construction of Shiroishi Plant was completed. (Shiroishi city, Miyagi)

The capacity of Shiroishi Plant is 6,000 tons annually.

- 2016

TBM received The Social Impact Award by Plug and Play Tech Center.

- 2017

TBM was selected as one of the five top companies to participate in the Innovation Showcase of Japan US Innovation Awards program.

[Paper alternative (LIMEX sheet)]

LIMEX uses almost no water and no trees while 1 ton of paper is made from around 20 trees and 100 tons of water. One

ton of LIMEX Sheet is made from 0.6~0.8 tons of limestone and 0.2~0.4 tons of polyolefin resin.

※Japanese Paper manufacturers plant trees overseas for sustainability.

※If used LIMEX sheet is to be disposed in Japan, it is generally categorized as combustible waste, and cannot be recycled with paper.

[Plastic alternative (LIMEX pellet)]

- While conventional plastic is made from petroleum-derived resin, LIMEX pellet is made mainly from limestone. LIMEX pellet can reduce the amount of petroleum-derived resin used.

- Limestone costs lower than petroleum-derived resin.

- LIMEX sheet can be up-cycled to LIMEX pellet.

[Deposits of limestone]

- Limestone is self-sufficient in Japan.

- Limestone is abundant around the world.

■ TBM Co., Ltd.

CEO Yamasaki Nobuyoshi

Head Office 2-7-17-6F, Ginza, Chuo-ku, Tokyo, Japan

Founded 2011

Capital 9,194 million yen (Including legal capital surplus)

Business description Development, manufacturing and sale of LIMEX and LIMEX products

URL <https://tb-m.com/en/>

*The name of the company, goods and services appeared in this news release are registered trademark or trademark.

*The contents of this news release are as of the released day. The contents are subject to change without notice.

■ MEDIA CONTACT

Takayuki Sasaki, Shun Sasaki, Corporate Communication division, TBM Co., Ltd.

Tomoya Nakamura, Wakana Honda, Corporate Planning division, TBM Co., Ltd.

TEL: +81-3-3538-6777

FAX: +81-3-3538-6778

Email:infomail@tb-m.com