# Change runs on renewables

Neste creates solutions for combating climate change and accelerating a shift to a circular economy

NESTE

Change runs on renewables

# Providing tomorrow's solutions today

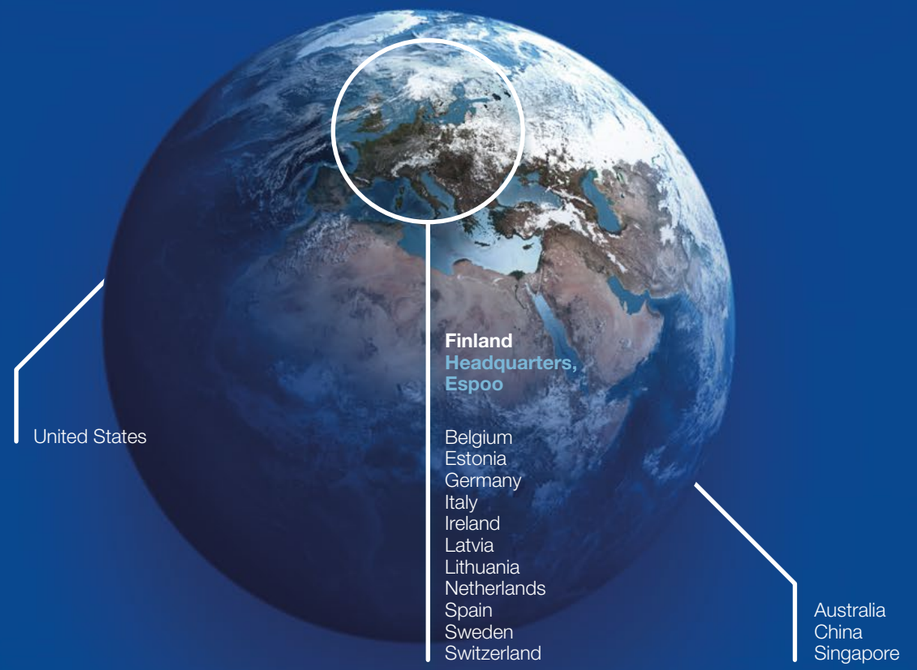
Neste creates solutions for combating climate change and accelerating a shift to a circular economy. We refine waste, residues and other innovative raw materials into renewable diesel, sustainable aviation fuel and more sustainable feedstocks for the polymers and chemicals industry.

Our transformation journey has taken us from being a local oil refiner towards becoming a global leader in renewable and circular solutions. Safety is an integral part of our business. Together with our partners and stakeholders, we can create a healthier planet for our children with solutions that are available today.

See more:
neste.com/about-neste



We have operations in 16 countries, and refineries in Finland, the Netherlands and Singapore and via a joint operation also in the U.S.




In 2022, our renewable products helped reduce greenhouse gas emissions by **11.1Mt $CO_2e$**

**25.7**
billion euros in revenue in 2022

**5,200**
average number of personnel in 2022

**68**
nationalities working for a better future at Neste

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# In the air

Neste MY Sustainable Aviation Fuel™ provides an immediate solution for reducing the greenhouse gas (GHG) emissions of air travel. In its neat form, using the fuel reduces GHG emissions by up to 80% over the fuel's life cycle, compared to using fossil jet fuel[1)].

## More than 1M tons of SAF to Air France-KLM Group

Neste will supply the Air France-KLM Group with more than 1,000,000 tons (approximately 1.26 billion liters) of Neste MY Sustainable Aviation Fuel over a period of 8 years starting in 2023. This SAF agreement is one of the largest of its kind in the aviation industry and supports the Air France-KLM Group's commitment to a more sustainable aviation sector.

"This landmark partnership with Neste is an important and concrete step towards the decarbonisation of our operations. This contract embodies our long-term commitment to the development of SAF's production capabilities around the world, to the benefit of the industry as a whole," said **Fatima da Gloria de Sousa**, Director Sustainability, Air France-KLM Group.

## Neste and Airbus join forces to advance the use of 100% SAF

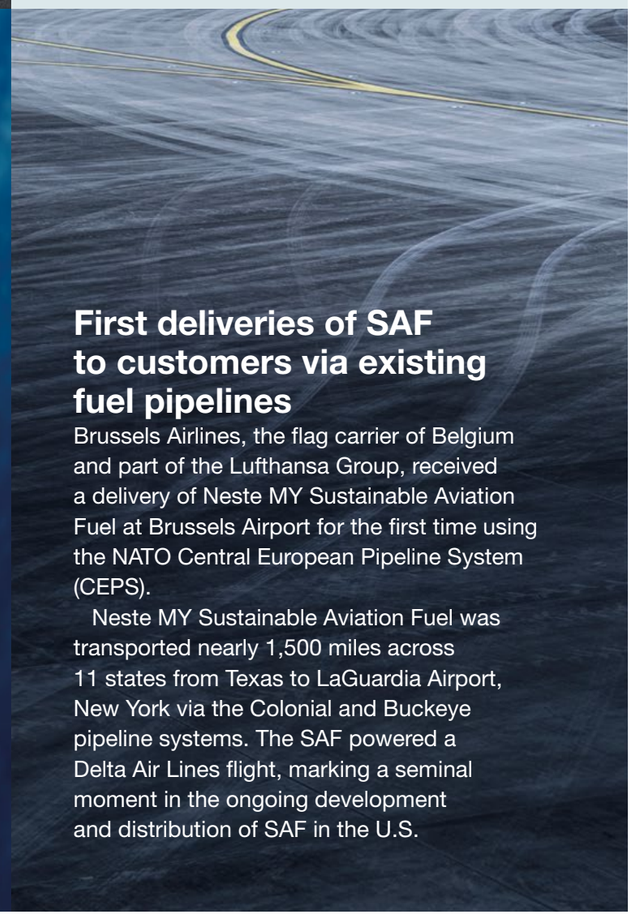
The collaboration is laying the foundation for Airbus and Neste to jointly promote the production and use of SAF and explore business opportunities together. The focus will be on the technical development of SAF, fuel approval and testing of current and future production technologies, and investigating how the use of unblended, 100% SAF can be enabled.

"All Airbus aircraft are already certified for flying with up to 50% SAF, and this partnership will be instrumental to reaching certification for 100% SAF by the end of the decade," says **Julie Kitcher**, EVP Communications, Sustainability and Corporate Affairs, Airbus.

## Significant step towards decarbonizing aviation logistics

In 2020, DHL Express became the first cargo operator to use Neste's SAF on flights departing from San Francisco International Airport and Amsterdam Airport. Since then, DHL and Neste have been working together to expand their cooperation culminating in an agreement in 2022 to supply DHL with approximately 320,000 tons (400 million liters) of Neste MY SAF in the next five years.

"Not a day goes by without our customers asking us about low-carbon logistics solutions and to partner them in our joint aspiration to be part of creating a more sustainable future," says **John Pearson**, CEO DHL Express.



## First deliveries of SAF to customers via existing fuel pipelines

Brussels Airlines, the flag carrier of Belgium and part of the Lufthansa Group, received a delivery of Neste MY Sustainable Aviation Fuel at Brussels Airport for the first time using the NATO Central European Pipeline System (CEPS).

Neste MY Sustainable Aviation Fuel was transported nearly 1,500 miles across 11 states from Texas to LaGuardia Airport, New York via the Colonial and Buckeye pipeline systems. The SAF powered a Delta Air Lines flight, marking a seminal moment in the ongoing development and distribution of SAF in the U.S.



1) *Calculation method: CORSIA*

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# For materials

Neste RE™ is a drop-in solution made entirely from renewable and recycled raw materials to replace fossil feedstock in the production of polymers and chemicals. When made from renewable materials, it has a more than 85%[1] smaller carbon footprint over its life cycle compared with conventional fossil raw materials for polymers and chemicals production. Neste is also advancing chemical recycling technologies to combat plastic waste pollution and turn waste plastic into a valuable resource.

## New high-quality plastic pipes made of hard-to-recycle plastic waste

Neste, Uponor, Wastewise and Borealis successfully produced pipes made of cross-linked polyethylene (PEX) which was based on feedstock gained from chemically recycled post-industrial waste plastic from PEX pipe production. PEX pipes are an important contributor to energy efficient heating and safe plumbing due to their robustness, temperature resistance and longevity. With chemical recycling, the PEX waste can be turned into fully functional PEX pipes.

## Bugaboo stroller portfolio made with bio-based materials

Partnership of Bugaboo, DSM Engineering Materials, Fibrant and Neste enabled the launch of an entire Bugaboo stroller portfolio made with bio-based materials. "Tackling the imminent climate crisis and all its consequences requires companies to take responsibility now – but no company can achieve a circular economy alone. By partnering along the value chain, we can benefit from innovative low-carbon emission solutions, and move toward a circular, low-carbon economy," says **Adriaan Thierry**, CEO at Bugaboo.

## Safe and cost-efficient alternatives for fossil-based plastics

The new MAM Original Pure soother is composed of renewable polypropylene from Borealis, manufactured with Neste RE produced entirely from renewable raw materials.

"The MAM Original Pure soothers show how renewable feedstock such as Neste RE has become a viable alternative to conventional fossil feedstock even in sensitive applications," says **Maria Carcolé**, Head of Brand Owner Management from Renewable Polymers and Chemicals business unit at Neste.

1) *Cradle-to-gate approach including end-of-life according to the LCA standards ISO 14040, ISO 14044, and ISO 14067*

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# On land

With Neste MY Renewable Diesel™ greenhouse gas emissions (GHG) can be reduced by as much as 75 to 95%[1] over the life cycle of the fuel compared to fossil diesel. Neste MY Renewable Diesel is a drop-in solution, which means that it can be used without any modifications to the engines or the infrastructure.

Neste MY Renewable Diesel can also be used in non-road applications, such as in trains or to power energy production with generators in data centers as well as at sports and music events.

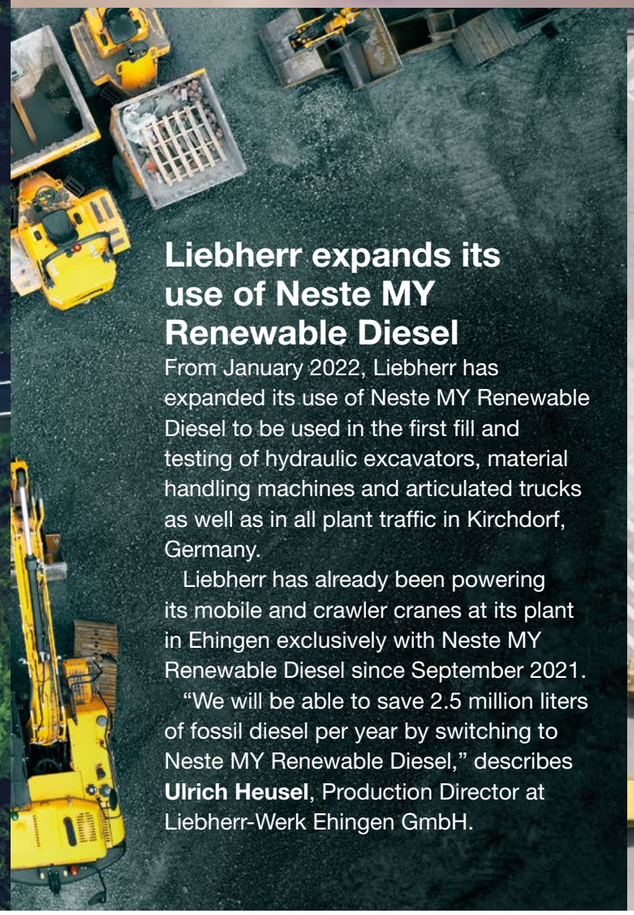
### Coca-Cola Europacific Partners Netherlands switched to Neste MY Renewable Diesel

From January 2022 onwards, Neste has been a renewable fuel provider for Coca-Cola Europacific Partners in the Netherlands. This concerns 50,000 journeys made annually for the transport of Coca-Cola, Fanta, Fuze Tea and Chaudfontaine, among others. The majority of renewable diesel, also known as HVO100, comes from Neste.

"With the complete transition to HVO100 for the transport of all our drinks, we are building on previous steps and taking another big step forward. It means investing, of course, but the importance of our climate ambitions goes far," says **Marijke Jacobs-Heefer**, Associate Director of Country Logistics at Coca-Cola Europacific Partners Netherlands.

### Deutsche Bahn cuts its GHG emissions

Deutsche Bahn is expanding its use of renewable diesel in 2023 by purchasing around 17 million liters of renewable diesel produced by Neste. Switching from fossil diesel to Neste MY Renewable Diesel will enable Deutsche Bahn to reduce GHG emissions from the operation of their diesel-powered locomotives and railcars by up to 90%[1]. In total, the purchased amount will save Deutsche Bahn around 46,000 tons of GHG emissions ($CO_2e$) compared to the use of fossil diesel.



### Liebherr expands its use of Neste MY Renewable Diesel

From January 2022, Liebherr has expanded its use of Neste MY Renewable Diesel to be used in the first fill and testing of hydraulic excavators, material handling machines and articulated trucks as well as in all plant traffic in Kirchdorf, Germany.

Liebherr has already been powering its mobile and crawler cranes at its plant in Ehingen exclusively with Neste MY Renewable Diesel since September 2021.

"We will be able to save 2.5 million liters of fossil diesel per year by switching to Neste MY Renewable Diesel," describes **Ulrich Heusel**, Production Director at Liebherr-Werk Ehingen GmbH.

### Hamburg Airport uses renewable diesel

"Almost all our ground vehicles are already powered by renewable energy sources such as electric, solar and soon hydrogen. With Neste MY Renewable Diesel, we have added an important building block to our mobility concept. This is because there is still no practical way to electrify large vehicles such as airfield fire fighting vehicles," says **Jan Eike Hardegen**, Head of Environment at Hamburg Airport.

1) *The GHG emission reduction varies depending on the region-specific legislation that provides the methodology for the calculations (e.g. EU RED II 2018/2001/EU for Europe and US California LCFS for the US), and the raw material mix used to manufacture the product for each market.*

## Providing tomorrow's solutions today

# At sea

Over 90% of the world's trade is carried by sea transports, making maritime transport essential to the global economy. Neste Marine™ 0.1 Co-processed is a low-emission solution for marine professionals, brands and cargo owners to achieve up to 80%[1] lower greenhouse gas (GHG) emissions over the life cycle compared to fossil fuels.

## Neste introduced co-processed marine fuel in partnership with Nordic Marine Oil

Together with its partner Nordic Marine Oil, Neste has been piloting a new Neste Marine 0.1 Co-processed marine fuel in Scandinavia – a solution helping the maritime sector to reduce the greenhouse gas (GHG) emissions. The ISCC PLUS certified[2] marine fuel enables up to 80%[1] GHG emission reduction over the life cycle compared to fossil fuels without compromising the product quality and performance.

"As 90% of world trade and 13% of global transport emissions are the result of the shipping industry, it needs lower-emission solutions that are available already today," explains **Sveta Ukkonen**, Head of Marine Fuels and Services at Neste.

Neste Marine 0.1 Co-processed marine fuel is currently in the piloting phase and it is produced at Neste's refinery in Porvoo, Finland, where part of the fossil raw materials have been replaced with renewable raw materials in the conventional refining process. The drop-in fuel can be taken in use without any fleet modifications as it has a similar composition to conventional bunker fuels.

## Transformation of the Porvoo refinery

Today our Porvoo refinery in Finland produces both renewable and circular solutions, such as the Neste Marine 0.1 Co-processed, and high-quality oil products for the road transportation, non-road uses, aviation and marine sectors, as well as for the oil and petrochemical industries. Our ambition is to make Porvoo the most sustainable refinery in Europe by 2030 and ultimately end crude oil refining there in the mid-2030s. We will reduce the refinery's GHG emissions (scope 1 & 2) at least 50% by 2030 and aim to reach carbon neutral production by 2035.

## ESL Shipping became the first shipping company in the world to utilize Neste's co-processed marine fuel for GHG emissions reduction

Finnish shipping company ESL Shipping is the leading carrier of dry bulk cargoes in the Nordic and Baltic regions. Constantly in search of sustainable shipping solutions, ESL Shipping strives to minimize the adverse environmental impacts of its fleet.

"The co-processed marine fuel is something we have been waiting for a long time. ESL Shipping is committed to leading the way in reducing greenhouse gas emissions of the maritime industry, and we are now fortunate to be able to use this low-emission alternative without having to do any fleet modifications. We believe this is the right thing to do, and I'm convinced we in the Nordics are well-positioned to show the way for the global maritime industry," says **Mikki Koskinen**, Managing Director of ESL Shipping.

1) *The method used to calculate life cycle emissions and emission reduction is guided by the EU Renewable Energy Directive II (EU)2018/2001.*
2) *The ISCC PLUS certificate does not cover GHG verification in the pilot phase.*

# Innovation is in Neste's DNA

Neste has a decades-long history of developing innovative, more sustainable solutions for transport, aviation and the polymers and chemicals sectors. Innovation is the driving force in its future success. Our proprietary NEXBTL™ technology allows us to turn a variety of renewable fats and oils into premium-quality renewable products. We continuously develop our existing solutions, while also exploring new business opportunities around scalable future raw materials and related technologies. We are ready to make future scenarios a reality – join our innovation journey!

See more:
neste.com/about-neste/innovation

**25%**
of our personnel work with innovation, product development and engineering

**~2,000 patents**
granted by 2022

R&D expenditure in 2022 was
**85 MEUR**

## New Innovation Center in Singapore strengthens research and innovation expertise

In February 2023, Neste established an Innovation Center in Singapore to strengthen its innovation and R&D capabilities globally. Asia-Pacific has become an important market area for Neste and the new center provides good support to the company's growth journey in the region.

The new center is an excellent complement to Neste's global innovation work which is about exploring new business opportunities around scalable future raw materials and related technologies. Approximately 25% of the company's personnel work with innovative research, product development and engineering, and some 1,000 professionals are employed by our Technology Center in Porvoo, Finland.

## Building an integrated Power-to-Liquids (e-fuels) demonstration facility together with VTT

Neste and VTT collaborated in building a technology demonstration facility at VTT Bioruukki Pilot Centre in Espoo, Finland. This is a continuation of the Business Finland funded Veturi E-fuel research project developing high temperature electrolysis, $CO_2$ capture and hydrocarbon synthesis technologies.

## IPCEI status for Porvoo refinery hydrogen projects from European Commission

Neste was the first Finnish company to be granted IPCEI (Important Project of Common European Interest) status by the European Commission, enabling national public funding for our renewable hydrogen projects at Porvoo refinery. The projects develop solutions for the production and utilization of renewable hydrogen in our refinery processes.

In December 2022, Business Finland awarded Neste with a public funding of EUR 27.7 million for its green hydrogen projects at the Porvoo refinery.

## Our long-term business development and innovation take place on several fronts.

**Future sustainable raw materials and technologies include:**

- **Renewable hydrogen**
- **Power-to-X**
- **Algae**
- **Lignocellulose**
- **Municipal solid waste**

# Sustainability – continuous progress towards a healthier planet

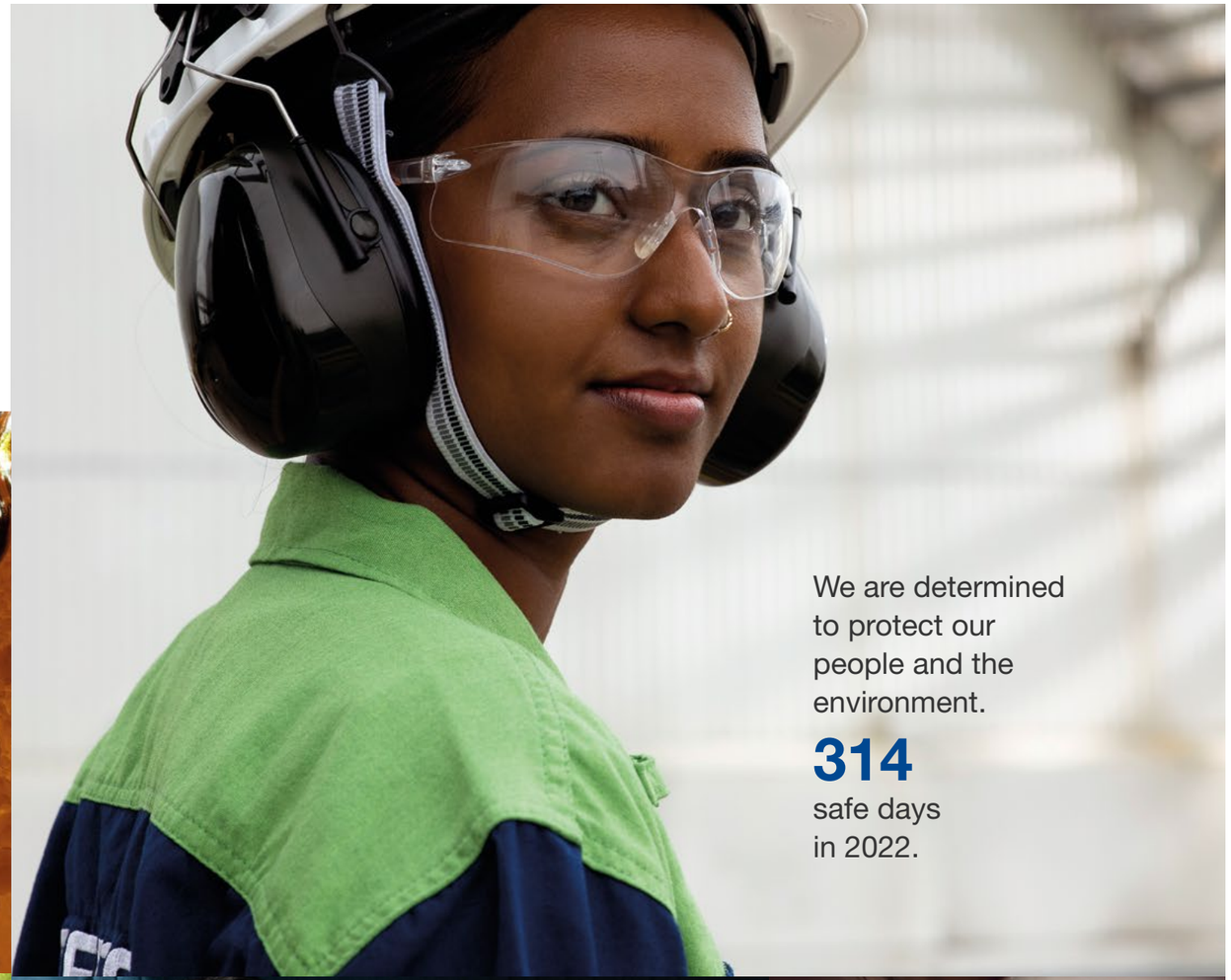
Neste's renewable and circular solutions contribute to running societies more sustainably and reducing the dependency on fossil raw materials. We have set ourselves aspirational targets for climate, biodiversity and human rights, as well as our supply chain and raw materials – which are all interlinked. Together with our partners, we are aiming to make our value chain carbon neutral and nature positive by 2040. We set high standards for sustainability and persistently make progress and take actions on many fronts – within all of our sustainability key areas and throughout our operating countries with our partners and other stakeholders.

See more:
neste.com/sustainability

We plan to reduce the share of conventional palm oil to

**0%**

of our global renewable raw material inputs by the end of 2023.



We are determined to protect our people and the environment.

**314**

safe days in 2022.

The amount of greenhouse gas emissions our customers reduced with our renewable products in 2022:

**11.1Mt**

equaling the annual carbon footprint of 1.8 million average EU citizens.[1)]

1) *Source: World Bank*

Our biodiversity vision is to achieve a nature positive value chain by 2040.

Our human rights ambition is to create a more equitable and inclusive value chain by 2030, in which everyone works with dignity.

**1,400**

external recruitments in 2022.

**99%**

of our renewable raw material suppliers have committed to Neste Supplier Code of Conduct.

# Our success is built on collaboration

At Neste, people make the strategy happen. To carry out our business growth, our values guide our work, the choices and decisions we make.

- **We care** for each other's wellbeing and safety
- **We have courage** to innovate and try new things
- **We cooperate** with our colleagues, customers and stakeholders.

Our values-led culture drives clarity, supports growth and empowers renewal. We include and welcome everyone on our journey by embracing diversity, equity and inclusion. We want our work to feel good and do good.

Together, we make an impact today and keep our promises for tomorrow.

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