

a member of **EKK** and **FREUDENBERG** 

**RELY ON EXCELLENCE** 



Technology, service, knowledge.

To make the industry & energy transition a success.





### Achieving net zero together

#### Growth, safety, profitability

Achieving a net-zero economy by 2050 is an ambitious goal that requires fundamental technological changes across all sectors.

The areas for action are many and varied. They include measures to increase the use of low-carbon energy sources, adapt industrial processes to be more energy-efficient or emission-free, design sustainable mobility, and develop a resource-efficient circular economy. However, answers are also needed on how to deal with unavoidable emissions.

This presents significant challenges for companies, but also opens up opportunities for further growth, greater collaboration and technological progress that will benefit us all.

CUS

#### Trusted partner for innovation

EagleBurgmann has always been driving innovations in sealing technology and is actively shaping the current transformation in the industrial and the energy sectors. We see ourselves as a technical partner to our customers, working with them to develop sealing solutions that ensure the safe and efficient operation of machines and technical systems that are needed or already in use on the road to net zero.

Our offerings to end users, OEMs, EPCs and engineering firms include a broad portfolio of superior sealing technology for nearly any industrial application. We also provide consulting, engineering, and valuable technical support – wherever you are in the world.

# Shaping the future today

We can help you in these areas

#### Safe hydrogen production, compression, transformation, distribution, and storage

Hydrogen is a versatile energy carrier that helps decarbonize the major  $\mathrm{CO}_2$  emitting sectors. Our engineers have been working with hydrogen for many years and have contributed to the success of numerous turnkey and infrastructure projects by applying their in-depth technical knowledge.

## Profitable carbon capture, utilization, and storage

Despite technological advancements, reducing harmful emissions in certain industries will remain a challenge. Therefore, the successful implementation of profitable CCUS technologies is all the more important. Companies interested in investing in carbon capture, transport, storage and/or utilization can benefit from EagleBurgmann's superior mechanical seals, specifically designed for CO<sub>2</sub> and sCO<sub>2</sub> applications with a proven track record.

## Efficient LNG production, transportation, and storage

LNG makes an indispensable contribution to a low-carbon future, serving as bridge energy, diversifying supply sources, and providing an alternative fuel for heavyduty vehicles and shipping. EagleBurgmann offers reliable sealing technology for the entire value chain, from use at the wellhead through processing, liquefaction, and transport to regasification of LNG.

## More environmentally friendly mining, processing, and recycling of lithium

BATTERY
ENERGY
STORAGE

Lithium is essential for the production of rechargeable batteries or accumulators required for e-mobility and the storage of renewable energies. Robust sealing technology from EagleBurgmann makes a valuable contribution to making mining, processing, and recycling more waterefficient and more economical.

## Sustainable transformation to low carbon fuels

In the view of the growing volume of transportation and traffic worldwide, there is no alternative to switching to low-carbon or carbon-free fuels. EagleBurgmann has been a reliable full-service partner to the fuel industry for many years and is ready to provide its sealing expertise also in the field of biogenic or synthetic fuel production.

## Advanced plastic recycling, production of bioplastics

Sustainable growth is only possible by finding new ways to meet the strong demand for plastics. As a reliable partner, EagleBurgmann supports the petrochemical and plastics industries in the optimal design, supply, and economic operation of their sealing technology. Whether it is advanced plastics recycling, the production of bioplastics, the recycling of rubber and used tires, or new technologies to increase circularity.

## Reducing emissions in conventional processes

The rapid pace of climate change does not allow us to wait and see. All available reduction levers must be used to reduce emissions across all industries.

EagleBurgmann offers a wide range of technologies to help you cost-effectively address the urgent need to decarbonize your exisiting operations and improve your carbon footprint.



## Helping the global industry transform

#### Examples of winning partnerships and progressive ventures



#### **Hydrogen production**

Sealing hydrogen pumps in large-scale blue hydrogen production facility | USA EagleBurgmann is supplying the complete range of pump sealing technology for this turnkey blue hydrogen project in Texas. It will serve as a template for other plants in North America, including one in Alberta, Canada.



#### Advanced plastics recycling

Supplying several plastic waste pyrolysis plants | France and Netherlands

The technology company decided to equip three of its plants with EagleBurgmann seals. For the most critical pumps, a cartridge double seal with back-to-back arrangement (according to API 682 4th edition) with Plan 53B system was chosen.



#### **Alternative fuels**

Trusted single vendor for refinery conversion project | Germany

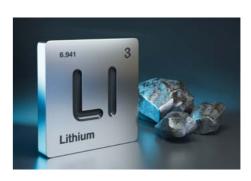
All sealing technology, from initial installation to retrofitting, is provided for one of Germany's largest refineries. Used cooking oil and industrial waste oils are collected and processed into multi-purpose base oil.



#### CCS

Sealing solutions partner for the world's first LNG plant with carbon capture and storage | Norway

All six stages of the integrally geared  ${\rm CO}_2$  compressor are reliably sealed with EagleBurgmann DGS mechanical seals.



#### Lithium production

Sealing expertise for Europe's first lithium hydroxide production plant | Germany

EagleBurgmann is awarded the engineering of seals and supply systems for several LiOH recirculation pumps. This includes API Plan 53A seals. For other seals, the end user will provide the pressurized barrier fluid from their demi-water production plant (Plan 54).



#### CCU (EOR)

Engineering of ultra-high-pressure compressor seal for CO<sub>2</sub> gas reinjection on FPSO | Brazil

With the 428 bar PDGS seal EagleBurgmann set a new standard back in 2013 for dry gas seals used in ultra-high pressure gas injection systems. The medium is natural gas with high  $\rm CO_2$  content,  $\rm sCO_2$  and NG mix.



#### LNG processing

Equipping new floating liquefied natural gas processing facility | Mozambique

Several EagleBurgmann dry gas seals and RoTechBoosters were supplied to ensure reliable operation of the regeneration and mixed refrigerant compressor systems.



#### Hydrogen transformation

Equipping the world's largest green hydrogen project facility | Saudi Arabia

The giga plant will supply Europe and Japan with green  $NH_3/H_2$ . EagleBurgmann is the trusted technology partner for sealing the pumps and compressors.



#### **Bioplastics production**

Technology and service partner for the first PLA plant of its kind | Thailand

EagleBurgmann supplied all seals and seal supply systems for this pioneering polylactic acid production project and is the preferred service partner.



# Do you need guidance on sealing technology to achieve net zero?

Industrial processes and opportunities are as diverse as the fields of action. We can help you assess your situation, improve your operational performance, and take advantage of potential savings.

During our AREES audit we evaluate factors such as availability, reliability, energy efficiency, cost-effectiveness, and sustainability of your sealing technology based on your specific needs.

- A Availability
- R Reliability
- E Energy
- E Efficiency
- S Sustainability

Our years of cross-industry experience, deep technical expertise and world-class sealing technology make us a partner of choice.

### EagleBurgmann product portfolio



Pump seals



Compressor seals



Agitator seals



Magnetic couplings



Carbon floating ring seals

## Sustainable, versatile, beneficial. That's what you can expect from us.



#### Driving innovation, conserving resources

Efficiency, sustainability, and process reliability are the core of our guiding values, reflecting our forward-thinking approach. This is why our sealing solutions set technology and quality standards, meeting the high expectations of our demanding customers every day. Many of our innovations are state-of-the-art and used worldwide.



#### Solid consulting and engineering

Our extensive knowledge of sealing technology, machinery, materials and media, as well as industrial processes form the basis for our convincing solutions. Before deploying a seal, EagleBurgmann engineers work closely with you to provide application engineering, calculations, simulations, and testing to ensure a reliable sealing strategy.



#### Comprehensive service and support

As a full-service partner, we provide not only exceptional technology, but also customized service programs and flexible support, including on-site assistance. Services range from seal installation, maintenance, and complete documentation to prompt repair assistance. We also offer systematic troubleshooting support as well as digital solutions for performance analysis and predictive maintenance to complement our services.



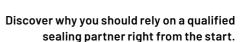
#### Technical seminars and training

Practical knowledge transfer is essential for smooth plant operation. We offer seminars and customized technical training courses to qualify your staff - from the field for the field. At our sites or wherever you prefer.



#### Project support in all phases

EagleBurgmann stands ready to help industries build a low-carbon future. Our experienced international project engineering teams are familiar with the structures, processes, and challenges of different projects and are happy to support you in all aspects of sealing technology to ensure quality at every stage of the project. Our products and services benefit operators, engineering firms, EPC companies, and original equipment manufacturers achieve optimal results.







Seal supply systems



Packings



Gaskets



Expansion joints



Rotary kiln sealing systems



Diaphragm couplings

## EagleBurgmann - Leading Innovation in Sustainable Sealing Solutions

We are your leading international specialist in industrial sealing technology. We combine innovative technologies, digital solutions and our passion and enthusiasm to create sophisticated and reliable sealing systems. Our products help make entire industries safer and more sustainable. 6,000 employees create added value for our customers around the world with their enthusiasm and competence. EagleBurgmann is a joint venture between the German Freudenberg Group and the Japanese Eagle Industry Group.

Rely on excellence.



More than 100 service centers worldwide

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