



Exploration & Production



RAG EXPLORATION & PRODUCTION GMBH

Producing the high-tech raw material of the future

RAG EXPLORATION & PRODUCTION GMBH

RAG Exploration & Production GmbH (RAG E&P) produces valuable crude oil, making a major economic contribution that supports the long-term, local production and supply of this vital raw material.

The high-grade crude oil produced in Upper Austria is marketed exclusively in Austria, safeguarding high-quality industrial processing in sectors where it is an indispensable resource, embedded in a sustainable circular economy.

LOCAL RAW MATERIAL PRODUCTION

RAG E&P has a wealth of experience in domestic oil exploration and production. Thanks to its technological expertise and innovative methods that have won it admirers abroad, RAG E&P's operations are exceptionally efficient. Technologies and automation solutions developed in-house play a key role in boosting efficiency and optimising oil production. This helps to maintain the commercial supply of domestic crude oil, cutting the country's dependence on imports. We develop reuse strategies that support renewable energy generation, which forms a core element of our resource-efficient, sustainable approach.

Our capacity for innovation, sustainable and future-proof solutions, and vision to be an industry trend-setter that not only spots business opportunities at an early stage, but also exploits them have long made the company successful, and an important partner for tomorrow's renewable-led energy landscape.

RAG AUSTRIA AG

Fully owned by RAG Austria AG, RAG E&P accounts for 7% of Austria's total oil output of 664,000 tonnes (2018) – roughly equivalent to the amount of this essential raw material needed by industry in Upper Austria each year (around 82,000 tonnes in 2018).



OIL – A HIGH-TECH RAW MATERIAL MADE IN AUSTRIA

Highlighting and designing innovative solutions for the energy industry of the future: our subsurface engineering expertise, technological capabilities and innovative capacity have allowed us to develop sustainable energy mining approaches.

CRUDE OIL

Crude oil plays a significant part in this. There is still no substitute for valuable domestic oil – and this is unlikely to change any time soon. Crude oil is the base material for countless products and technologies that currently play a dominant role in our everyday lives and will continue to do so in future. Without crude oil, key technologies that will shape tomorrow's energy landscape would be unimaginable. For instance, a wind turbine consists to a large extent from oil or petrochemical products, and without suitable lubrication the blades would grind to a halt. Depending on its size, a wind turbine requires several hundred liters of high-quality lubricating oil in order to keep turning. In contrast to producing synthetic natural gas, synthetic oil production is very complex and expensive. So sustainability, efficiency and sparing application are vital in the production and use of crude oil. Local production also makes a major contribution to boosting security of supply.

SUSTAINABLE CIRCULAR ECONOMY

Crude oil should be used carefully for specific applications where it is essential. The focus needs to be on recycling, not disposal. Recycling high-value plastics reduces Austria's dependence on imports, protects the environment and is a key element of a sustainable circular economy. The addition of oil components enables high-quality recycling, and in turn – as far as possible – a sustainable, uninterrupted material cycle.

“We always consider subsequent use for renewable energy as part of every project.”

In the near future, the biggest source of demand for oil should and will in all likelihood no longer be the transport sector, but industry. And oil will not be used primarily as an energy source – above all, its value will lie in its role as an indispensable raw material in industrial manufacturing and the medical sector, and as an integral part of high-quality, everyday products.

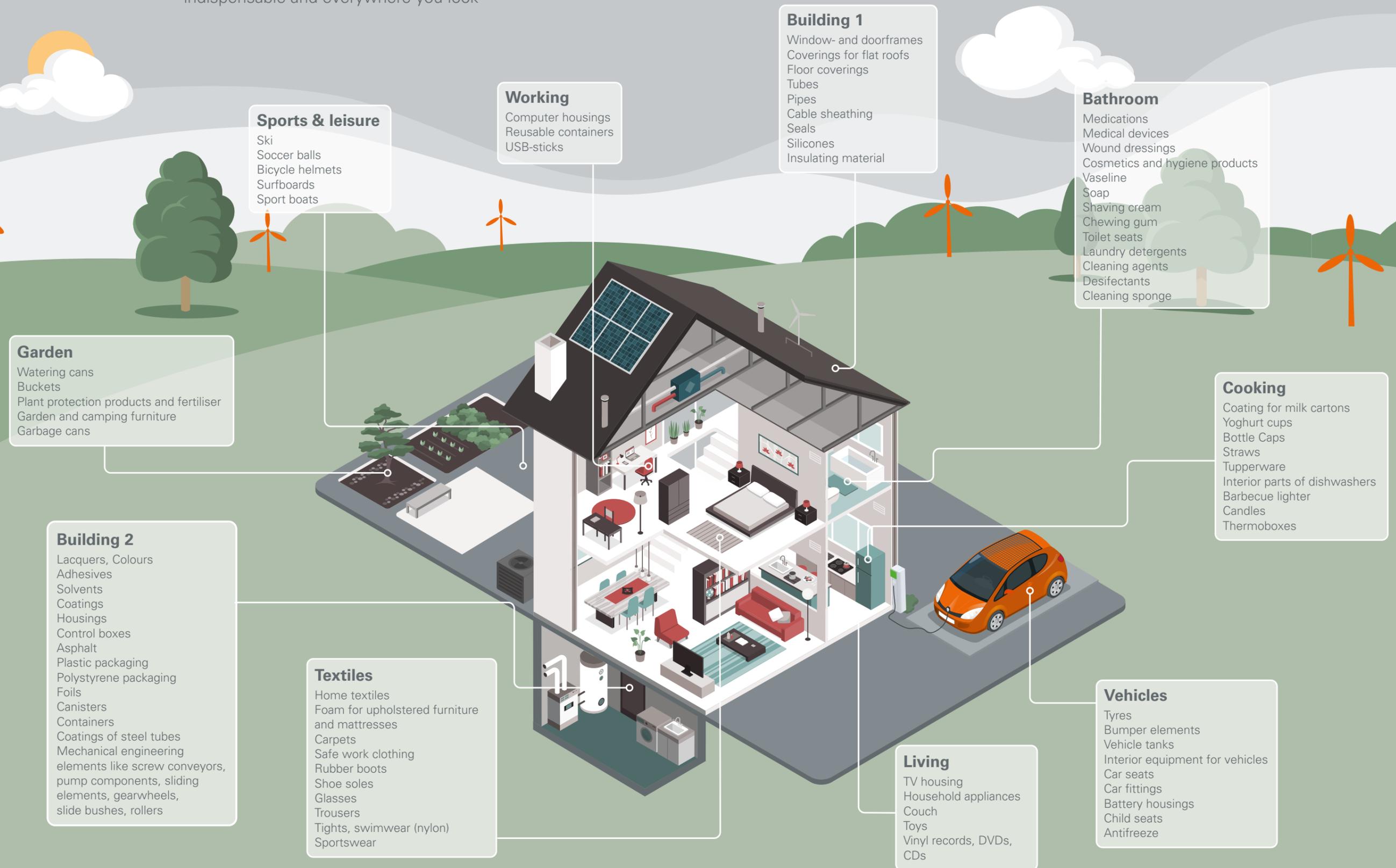


„SUSTAINABLE MATERIAL MINING“

RAG E&P's production of crude oil reflects its commitment to meeting its responsibilities as part of a sustainable energy sector in the future. The emphasis is on sustainable material mining: eco-friendly production of a valuable raw material – crude oil – integrated into a sophisticated circular economy. Efficient reuse of disused and depleted reservoirs for renewable energy storage or geothermal projects also forms part of RAG E&P's sustainability strategy.

“We see domestic oil production as ‘sustainable material mining: eco-friendly production of a valuable raw material – crude oil – integrated into a sophisticated circular economy.’”

High-quality oil products in everyday life: indispensable and everywhere you look



INDISPENSABLE AND EVERYWHERE YOU LOOK: SURROUNDED BY OIL

Virtually no other raw material has had such an impact on and paved the way for progress in our society as oil. Because it has such a huge range of applications, it is an integral part of our daily lives. So many things are based on various oil products – even though it might not be obvious at first glance.

Crude oil plays a fundamental part in industrial manufacturing and is used in many different forms for processing and refining products. Crude oil contains at least 500 different compounds, mainly comprising carbon and hydrogen. This is what makes it so versatile. Oil is part of countless everyday products, and around 90% of all chemical products are oil-based, making it an essential part of modern living and work.

LIVING

Anyone building a house depends on oil – it's the base material for window frames, floor coverings and wire insulation. Oil is used to produce construction foams, paints, varnishes, coatings, insulation and adhesives. Oil products can be found everywhere, even in mattresses, door seals and toilet seats. What's more, it is essential for producing garden hoses, light switches, bins, switch boxes and wiring.

TRAVEL AND TRANSPORTATION

Oil-based products can be found in virtually all the parts that make up a car – even if the vehicle itself is powered by gas or electricity. This list is long: from tyres, lubricating oil, paint and interior trim to foot mats, gaskets, bumpers and battery casings. And electric cars are no different. The asphalt used to build the roads we drive on is also made from oil. And without lubricants, bicycles and trains wouldn't move an inch.

RENEWABLE ENERGY

Renewables also require oil: photovoltaic plants need oil products for cables, plugs and wiring, while wind turbines wouldn't turn without oil. Wind turbines and their rotor blades are not only made of high-quality carbon fibers and thus also of crude oil, but also need several hundred liters of high-quality lubricating oil to run smoothly.

CLOTHING AND LEISURE

From the latest leisurewear to protective clothing, oil is part of many of the clothes we wear. Sportswear, outdoor clothing, fleece jumpers, leggings, waterproofs and rubberised fabrics are all made using synthetic fibres. And the list doesn't end there – wetsuits for divers, shoe soles, breathable sneakers, hiking boots and safety vests also contain oil products. The same goes for sports equipment like cycle helmets and tyres, skis and surfboards, balls, tennis rackets and nets.

FOOD AND HOUSEHOLD PRODUCTS

Oil is too valuable to simply be thrown away, so there has to be a greater emphasis on recycling and reusing in food production, food packaging and households – and that does not just mean plastic containers. Adhesives, firelighters, candles, housings for domestic appliances such as vacuum cleaners and mixers, internal parts for dishwashers, as well as buckets and cleaning sponges all contain oil products, while standard detergents – in their conventional forms – could not be produced without oil.

MEDICINE, COSMETICS AND HYGIENE

Pharmaceuticals and cosmetics are another important application for base materials made from oil. These materials are used to make anaesthetics, dressings and plasters, disinfectants and soap, heart valves, medical devices and tubes. Without oil products, it would be impossible to make nail varnish and nail varnish remover, razors and shaving foam, lipstick and mascara, toothbrushes and toothpaste, or shampoo and body lotion. Aspirin is just one of numerous medications that contain oil products.

COMMUNICATION AND ENTERTAINMENT

Modern-day communications and the entertainment sector also need oil. 40% of the components in a smartphone are oil-based. And oil is also found in televisions, computers, keyboards, mousepads, games consoles and chargers, and even in books, playing cards and board games.



A VALUABLE RESOURCE – OILING THE WHEELS OF AUSTRIAN INDUSTRY

Environmentally friendly and efficient oil production that conserves resources, ensuring secure raw material supplies over the long term and integrating these into a sophisticated circular economy – in terms of RAG E&P’s sustainable production approach, this is a responsibility and a challenge.

The oil fields in our production areas in Upper Austria are small in international terms, and sophisticated, innovative technology is required to tap the reserves. The reservoir rock in which oil is usually found generally lies 1,000-2,500 metres below ground.

EFFICIENT, LOCAL AND ENVIRONMENTALLY FRIENDLY

The development and implementation of efficient, resource-friendly production methods have made RAG E&P an international trailblazer in this area, and have enabled it to continue developing existing fields with a view to safeguarding domestic production for years to come. Before it is transported, the oil produced is processed (in separators and tanks), and formation water and solids are removed. The natural gas produced is mainly used to satisfy RAG E&P’s own energy requirements. The crude oil is collected in tanks before it is shipped using environmentally friendly rail transport for high-quality processing. Water separated from the oil is returned to the reservoirs.

The quality of the crude produced is exceptionally high, making it easy to process. Depending on the fields they come from, our grades are either paraffin or asphaltic base crudes, with similar quality specifications to Brent blend. Our crude oil is marketed exclusively in Austria, supporting security of supply in the country.

“We keep transport routes short, protect the environment, enhance security of supply, generate added value for the country, safeguard jobs, and minimise transportation costs and emissions.”



RESPONSIBLE, SAFE PRODUCTION

Responsible stewardship of the resources at our disposal, protecting the environment and the climate, and being a good neighbour are our core values. Our operations make an important contribution to the Austrian economy, as well as promoting sustainable local raw material production.

HIGHEST STANDARDS AND INNOVATIVE TECHNOLOGY

We fulfil the highest safety standards in order to ensure a safe working and living environment for all of our staff, as well as local residents and municipalities.

Use of the latest technology, outstanding continuous training for our team, and comprehensive servicing of our facilities ensure the highest standards of quality, industrial safety and environmental protection. On the basis of clear processes, clearly defined guidelines and instructions, and efficient communication we go one step further, setting ourselves a target of zero accidents in all of our activities. Besides the health and safety measures designed to protect our own workforce, we also integrate contractors closely into our safety activities.

“We are committed to securing energy supplies for the future – through sustainability, environmental safeguards, careful use of resources and good relations with local residents.”

REUSING RESERVOIRS FOR RENEWABLE ENERGY

Our pore reservoirs are valuable resources that will prove their worth over the long term. They preserved oil for millions of years in secure, environmentally friendly surroundings, and they will be used to store energy in the future, too. The possibilities are almost endless: from green gas to hydrogen produced from renewable solar and wind power, as well as geothermal use. With this in mind, all RAG E&P projects consider the potential that reservoirs have for subsequent use as renewable-energy storage facilities.



Exploration & Production

Published by: RAG Exploration & Production GmbH
Schwarzenbergplatz 16, 1015 Vienna, Austria

Pictures: Karin Lohberger Photography
Last updated: December 2020