



iGas energy

Hydrogen from renewable energies

Resource-conserving circulatory economy

Innovative gas technology





► THE MISSION

Conserve Resources – secure the future

We have a responsibility to give our children and grandchildren a livable world. This includes conserving raw-material resources, utilizing energy efficiently and recovering valuable substances.

That is why, with innovative technology, we want to contribute to the conversion of our current raw material consumption economy into a sustainable circulatory economy.

▶ THE SPECTRUM

Efficient use of resources

iGas energy develops and manufactures plants with which the sustainable use of valuable resources becomes reality. The basis is the profound know-how from industrial gases technology.

The roots of iGas energy lie in industrial applications: The focus is on robust and low-maintenance systems with low operating costs.

The founder and managing director of the company, Dipl.-Ing. Karl-Heinz Lentz, is a chemical engineer and has decades of experience in the design and construction of chemical process engineering equipment.

As a member of the SK Group, iGas energy has access to the extensive know-how of the Group's employees in automation, rectifier and high-pressure technology.

Focal points are:

● **Circulatory economy:**

The complete recovery of valuable substances – for example phosphorus – and energy from aqueous organic waste into the material cycles.

● **Renewable energies:**

The storage of excess electrical current by conversion to hydrogen by high-pressure PEM electrolysis.

● **Innovative gas technology:**

The plant engineering for supplying industrial processes with gases, for example in the metal or glass industry.



► RESOURCE-CONSERVING CIRCULATORY ECONOMY

Organic waste is valuable

With the supercritical generation of gas, our plants utilize aqueous organic wastes completely, for example sewage sludge, pomace or green cut. They recover valuable substances – for example nutrients and minerals – as well as energy to 100 %, make the combustion superfluous and reduce the energy costs.

The end products are the synthesis gas „Hygas“, which can be stored, energized and / or materially used, as well as marketable valuable substances – among others highly plant-available phosphorus. All ingredients will be recycled, no waste is generated, but only valuable substances, which are returned to the material cycle.

Since the electrical energy balance is positive, not only the valuable substances can be marketed – the energy contained in the waste will also be used, for example for the power supply of the plant.





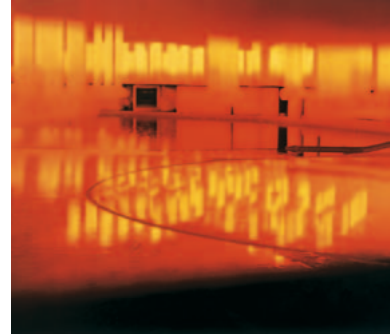
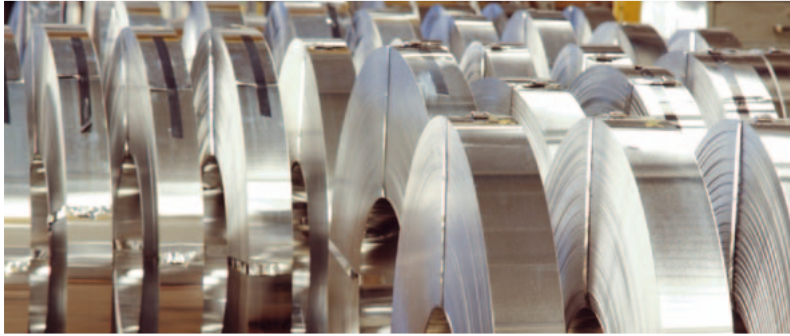
► HYDROGEN FROM RENEWABLE ENERGIES

On the way to the decarbonization

One of the keys to the successful implementation of the energy turnaround is the electrolysis of water: It produces hydrogen from excess electrical current, which originates, for example, from wind and solar power plants.

Whether for storage and later electricity generation, the methanation for feeding into the gas network, the use in fuel-cell vehicles or the industry: the GREEN ELECTROLIZER is the ideal tool for the efficient conversion of excess electrical energy into hydrogen.

The GREEN ELECTROLIZERS work on the basis of „Proton Exchange Membrane (PEM) technology. They require only electrical power and drinking water, are designed for unmanned operation and work largely maintenance-free.



► GASES FOR INDUSTRY

Energy Efficiency in the foreground

Whether from the pipeline, from an on-site system or from the liquid supply: iGas energy supplies energy-efficient complete solutions for gas supply.

Our plants produce industrial gases for thermal process technology - among others in the metal and glass industries. The right amount and the precise metering of technical gases and natural gas decide on the efficient production and optimal value properties.

We design and supply particularly energy-efficient on-site systems, which ensure the careful use of resources. Our facilities produce the gas mixtures that are needed: in the correct mixing ratio, reproducible, free of unwanted constituents and in the required quantity.



► RESEARCH AND DEVELOPMENT

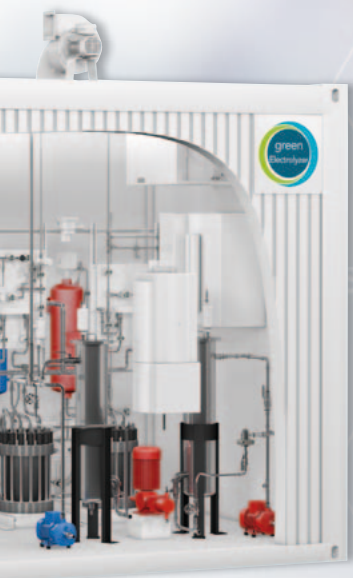
From the first idea to the industrial application

On behalf of our customers, we are developing products for the production of hydrogen and the recycling of valuable substances from the first concept via pilot systems on an industrial scale to marketability.

In addition to the technical feasibility, the efficiency and sustainability of the respective business model or market model are always at the forefront.

We are actively involved in several research and development projects for the efficient use of

resources. One example is the further development of a concept for high-pressure electrolyzers which can be used industrially and whose active cell area is practically unlimited and which can be designed for the highest performance.



Science

RESEARCH

Innovation

Discov

Analy



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