



Waste becomes E-Fuel

Ecolyd⁷¹
Technology

Tech reimagined

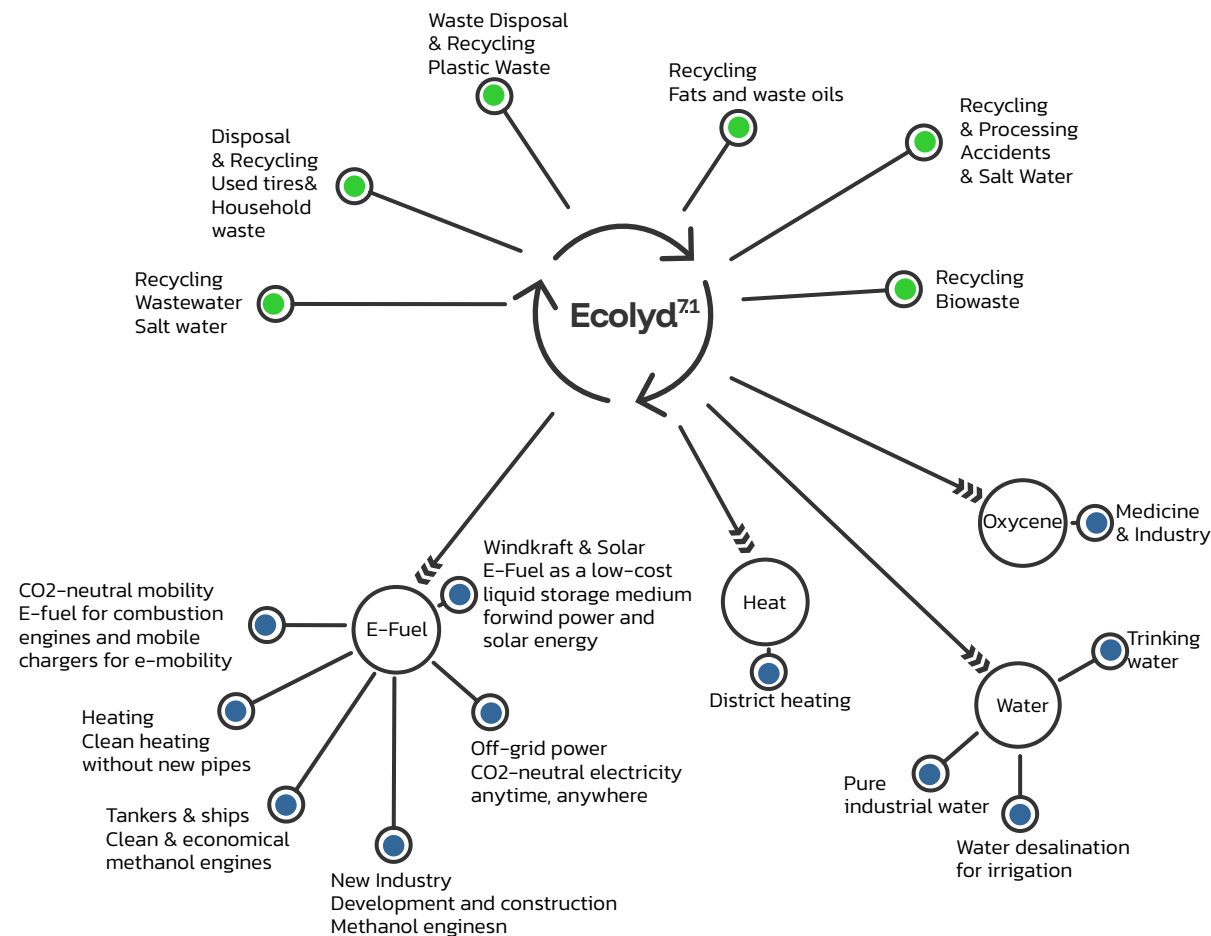
With Ecolyd 7.1, Zellstrom offers innovative technology. It disposes of waste and wastewater through transformation. Ecolyd 7.1 is based on an understanding of how existing technologies can be modified for new uses. With the exception of the patented plasma bubble generator and the special process, all components are tried and tested in series production. This reduces development time to a minimum.

Economic considerations were at the forefront. Combining several processes in a single process eliminates the need to build multiple separate plants. Prefabricated machines in container size allow for serial production and eliminate lengthy approval procedures. The desired local application is achieved through low costs, mechanical components that are less prone to failure, and, above all, the uncomplicated transportability of this container-based technology.

The process is simple: in a mixture of shredded waste and wastewater or salt water, the molecules of the raw materials are broken down in a pressure vessel by suspension plasmalysis and rearranged by means of a synthesis process. Plasma does not differentiate. There is no need for time-consuming and costly sorting of the materials in advance.

Versatile: waste becomes a recyclable resource

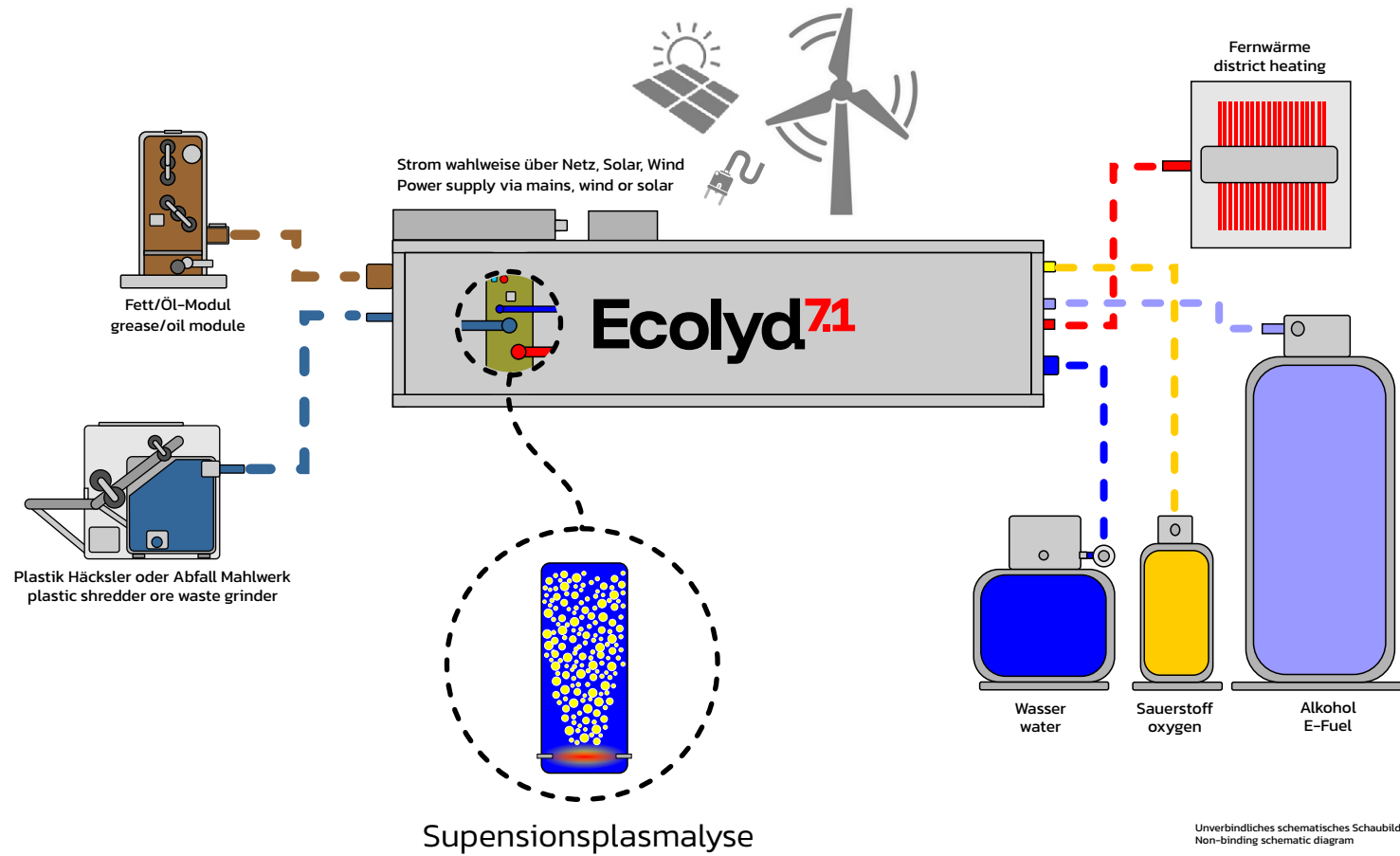
E-fuel is produced in the form of pure alcohol by converting shredded materials containing carbon atoms, such as plastic, waste oil, waste, fats, biowaste, or old tires, in combination with water. Pure water and pure oxygen are useful by-products of this process.



Economic advantages of suspension plasmalysis

- Unsorted material addition
Significant reduction in cost-intensive pre-sorting
- Cost-efficient conveying & compression:
Waste water suspension as a simple transport medium.
- Maximum substrate yield per volume:
High substrate density increases product quantity
(synthesis gas and then ethanol/methanol).
- Direct plasmalysis in liquid phase:
Saves energy-intensive drying before gasification
- Integrated gas purification in the process:
Rising bubbles wash particles & by-products
directly out → no filter effort.

Illustration Ecolyd 7.1

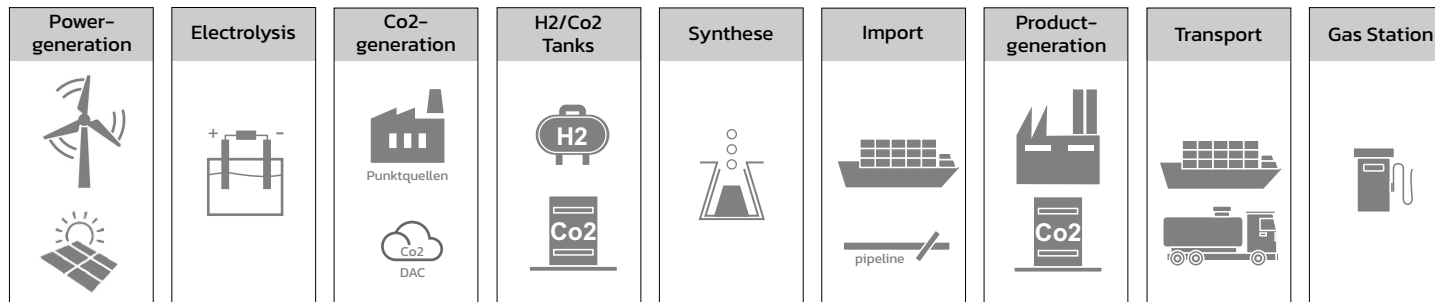


All-rounder Ecolyd 7.1

- Bridge technology for CO₂-free energy
Can be used "just in time"
- Container-sized powerhouse
Maximum performance at minimum cost
- High environmental protection and high efficiency
Combined waste and energy supply in one machine and a single process
- Off-grid operation
Power supply even in hard-to-reach regions
such as islands or steppes without stable power grids
- High economic efficiency
Low lead times and acquisition costs as well as secure yields through e-fuel, water, and oxygen

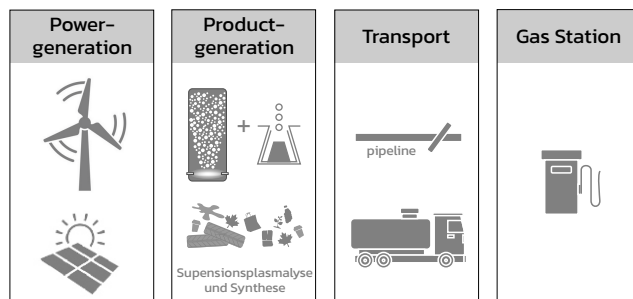
Ökologie meets Ökonomie

Conventional production of e-fuel



There are many solutions for reducing environmental damage that deliver outstanding performance without considering economic efficiency. Ecolyd 71 offers decisive system-related advantages over centralised large-scale plants. Local disposal and supply as well as joint processing in a single process. The enormous savings in construction costs and the reduction in operating, personnel, and process costs are reflected in the high economic efficiency of Ecolyd 7.1.

Ecolyd 7.1 E-Fuel



It is our duty to leave our children a world worth living in. The actions we take today will determine the world our children will live in tomorrow.

Let us act wisely.



Zellstrom GmbH

Zellstrom GmbH
Zülowstr. 16
15827 Mahlow

www.zellstrom.com
info@zellstrom.com