Innovative industrial solutions for processing more than 2,500 types of waste into locally demanded resources

DAVER C0nverter System – high temperature converter

EC0STRACTOR – dehydration module

Ze0ic – bio-conversion module

- high temperature continuous solid waste cracking;
- non-membrane cleaning of highly diluted waste;
- biological waste processing.

Scalable waste processing solution

1. Used tires.
2. Heavy duty tires (quarry equipment).
3. RDF from MSW.
4. Chlorine-containing plastics (and other organics like pesticides).
5. Medical waste.
6. Waste from plant growing and animal husbandry, regardless of the content of antibiotics and other pharmaceuticals in them, as well as non-recyclable waste from fish farms and meat processing plants.
7. Woodworking waste of any moisture and condition.
8. Liquid (highly diluted) chromium-contaminated tannery waste.
9. Liquid (highly diluted) waste of alcohol production - stillage and fugate.

Waste processing products

1. Electric and heat energy from 100 kW to 10 MW from one module (linear scaling is possible).
2. Quality carbon black.
3. HQ-syngas for generators and boilers.
4. Dry food pellets.
5. Fuel pellets.
6. Table salt, chromium, sulfur, pure and distilled water
7. Cryptocurrency.

We do not pollute the environment, after processing, only mineral powder and CO2 emissions below the most stringent standard.

Productivity of one plant based on DAVER C0nverter System and EC0STRACTOR technologies

	Waste recycling solutions	Performance one module per hour (tons, m3, MW,)	Productivity of one module per year (tons, m3, MW,)
1.	Processing used tires	1 – 2 t/hr	20 000 t/yr
2.	Recycling of tanning waste	2 – 3 t/hr	30 000 t/yr
3.	Recycling of chlorine-containing plastics (also pesticides etc.)	1 – 1,5 t/hr	15 000 t/yr
4.	Recycling of agricultural waste	100 kg – 2 t/hr	2 000-20 0000 t/yr
5.	Wood waste recycling	100 kg – 2 t/hr	2 000-20 0000 t/yr
6.	Recycling RDF waste for CHP Efficiency more than 95%	2 t/hr & syngas (equivalent to 1,000 m3 nat. gas/hr)	20 000 t/hr & syngas (equivalent to 10 000000 m3 nat. gas/hr)
7.	Solution for converting tires into cryptocurrency	5 – 10 MW electrical	43 800 MWh/yr (157e+12 J/yr)

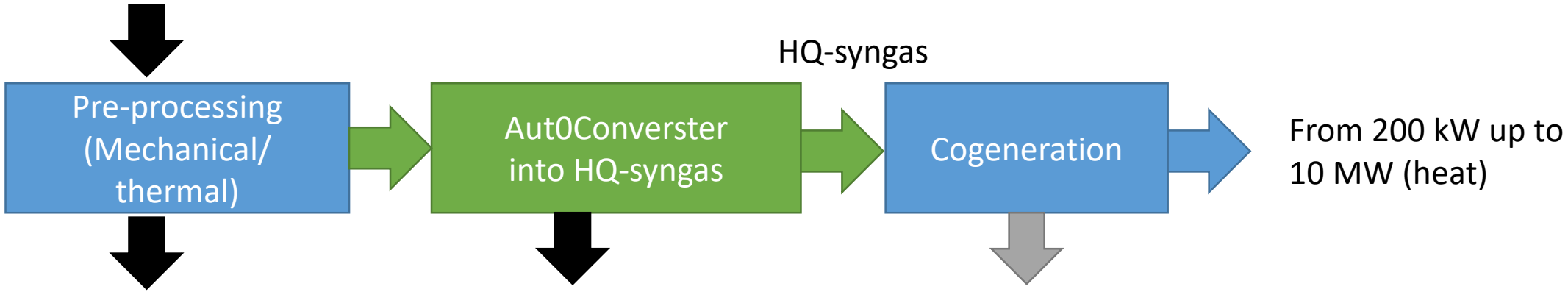
Used tire processing solutions

1. Line for continuous processing of tires up to 20,000 tons per year with one unit into electrical and thermal energy based on the **DAVER C0nverter System**. The process is environmentally friendly, autonomous and does not require external energy costs.
2. Line for cyclic processing of tires of heavy-duty and quarry equipment into carbon black up to 15,000 tons per year and metal (cord). This process does not require preliminary preparation, such as cutting tires into pieces, pulling out the cord, additional shredding. The process is environmentally friendly, autonomous and does not require external energy costs.
3. All solutions scale linearly. Refined products: gas, cord, ash <5%, emissions: CO2 below the norm, conversion efficiency more than 95%.

Tire conversion process

Feedstock/waste
Up to 2 t/hr.

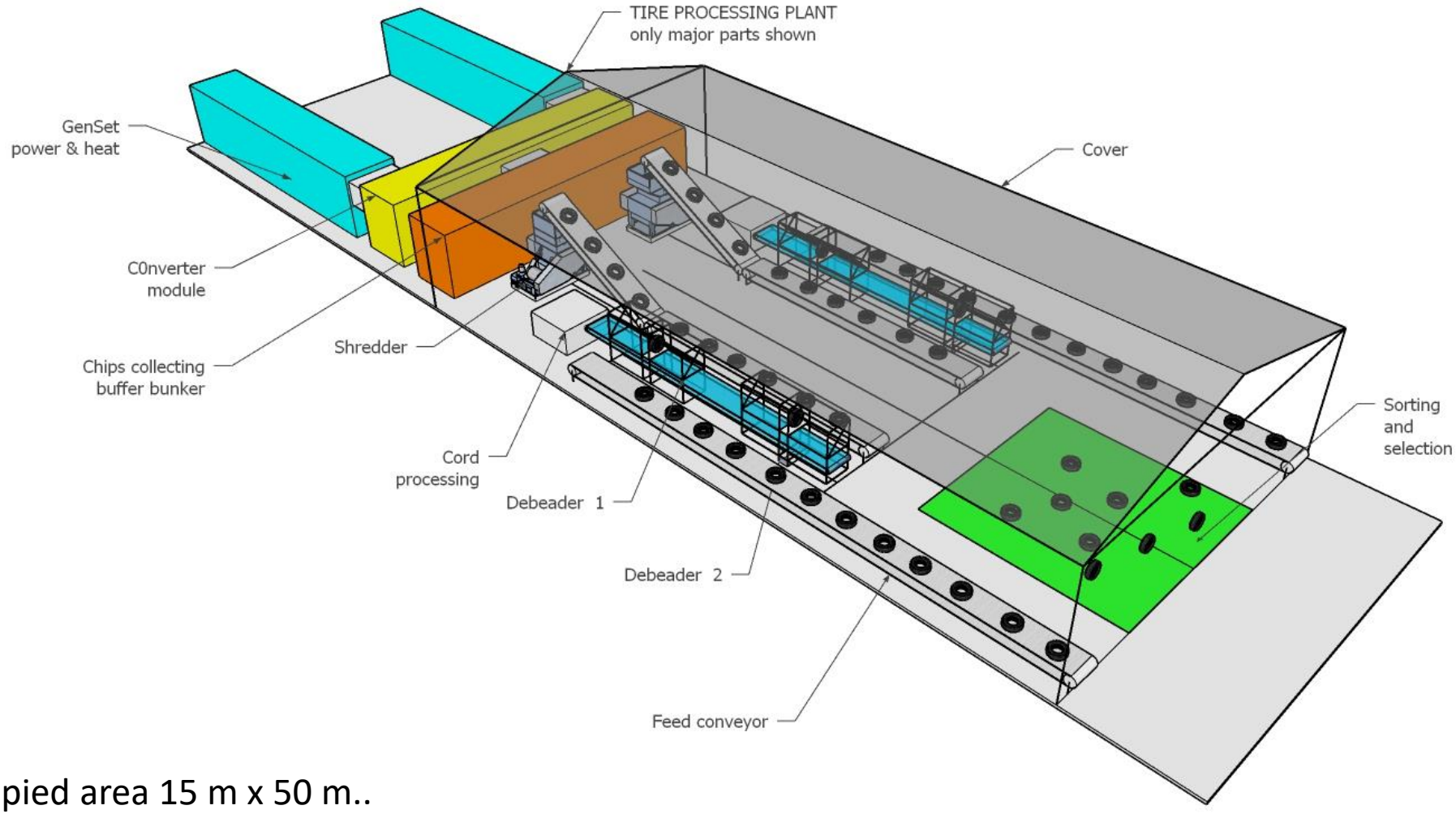
✓ Works– 24/7/365



✓ The capacity of one installation is from 900 to 20,000 tons of tires per year
✓ Generation of up to 5 MW of electric and 10 MW of thermal energy

DAVER

General layout of a tire recycling line

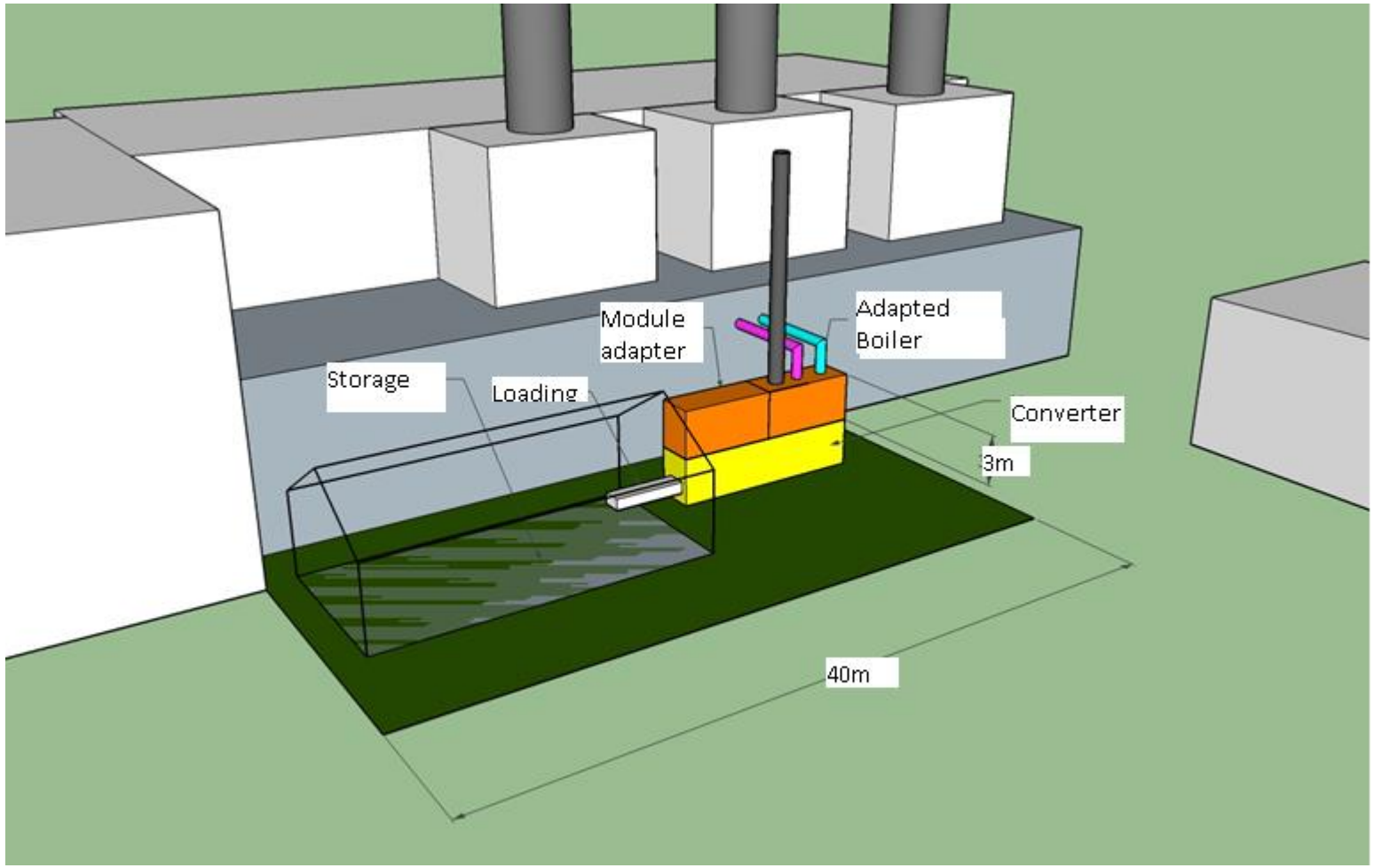


Occupied area 15 m x 50 m..

Processing RDF (or other waste including tires) into HQ-syngas for CHP

1. The modular waste cracker RDF with **DAVER C0nverter System** technology provides an environmentally friendly and highly efficient waste disposal in HQ-syngas and feeding the latter to its own unit or operating CHP.
2. The main advantage is :
    1. Modularity, small installation area and high process efficiency (conversion efficiency over 95%).
    2. Preservation of the technical regimes of the CHP, since high-quality gas is supplied from the unit to standard gas burners.
    3. Effective recycling of waste that is not in demand for secondary use.
    4. The capacity of one module is up to 1000 m3 per hour in equivalent to natural gas.

Recycling RDF into HQ-syngas for CHP



scheme of a modular plant for the processing of RDF

Eco-processing of PVC plastic and other chlorine-containing waste

Problem

Environmentally hazardous storage and recycling of PVC waste

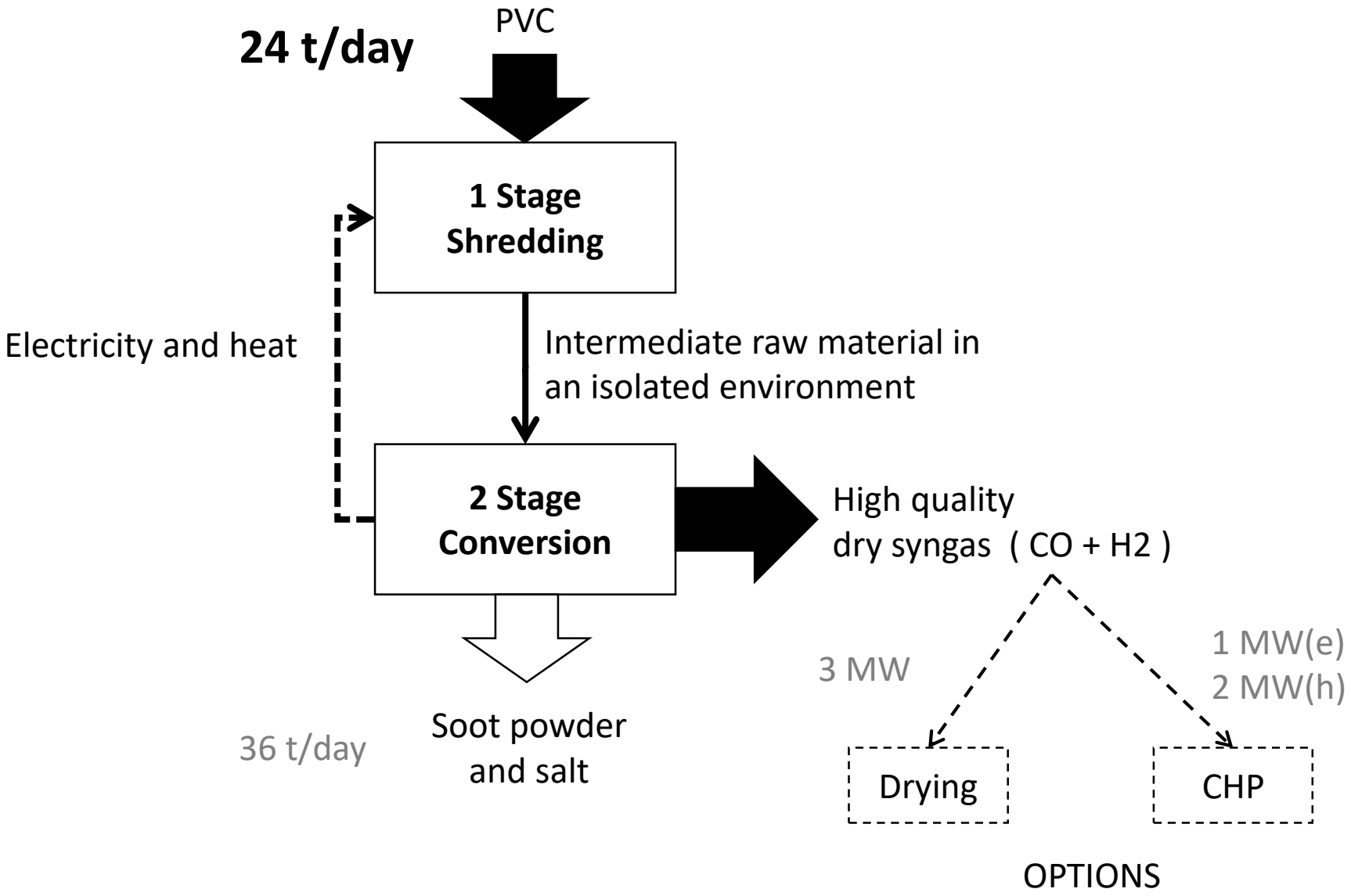
Lack of efficient eco-processing of PVC waste

Solution

Multistage high temperature Aut0Conversionв соль

- salt,
- mineral powder,
- HQ-syngas.

Eco-friendly PVC plastic recycling process



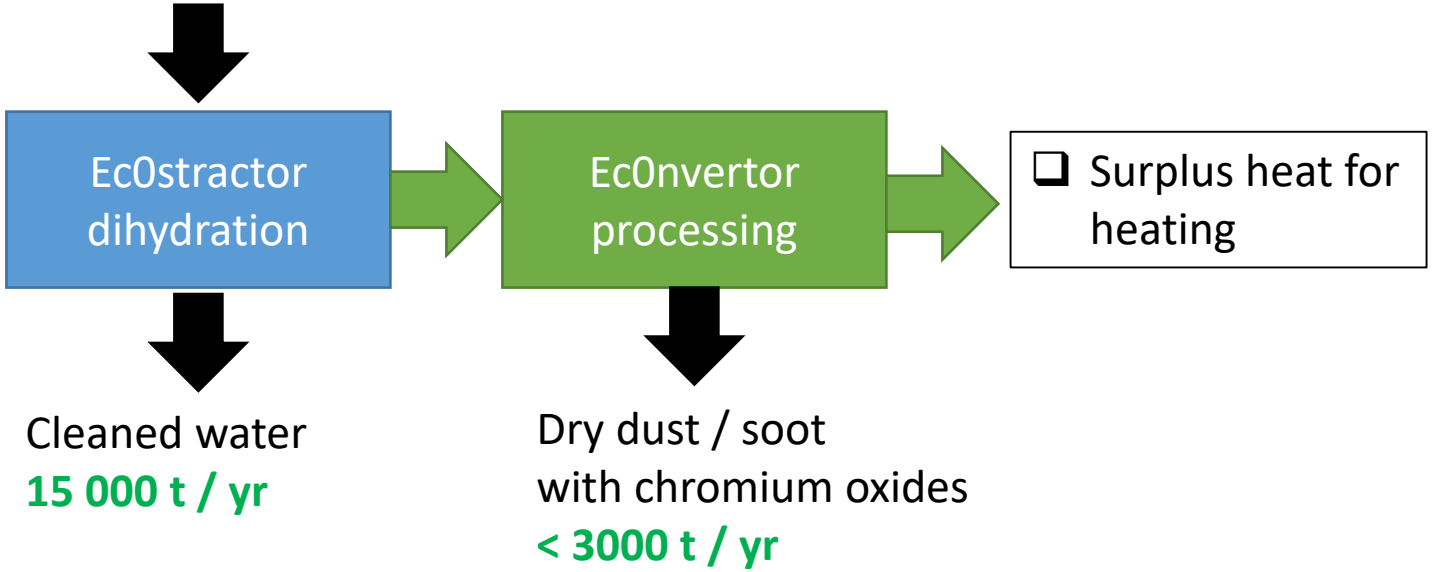
Industrial processing of liquid and highly diluted waste by the example of tanning waste

Processing solutions:

1. Dehydration of liquid and highly diluted waste to obtain clean water and granules.
2. High temperature conversion of waste into heat energy and ash powder residue, which contains chromium and minerals.
3. Solving the issue of neutralizing unpleasant odors from water treatment plants.

Schematic diagram of processing

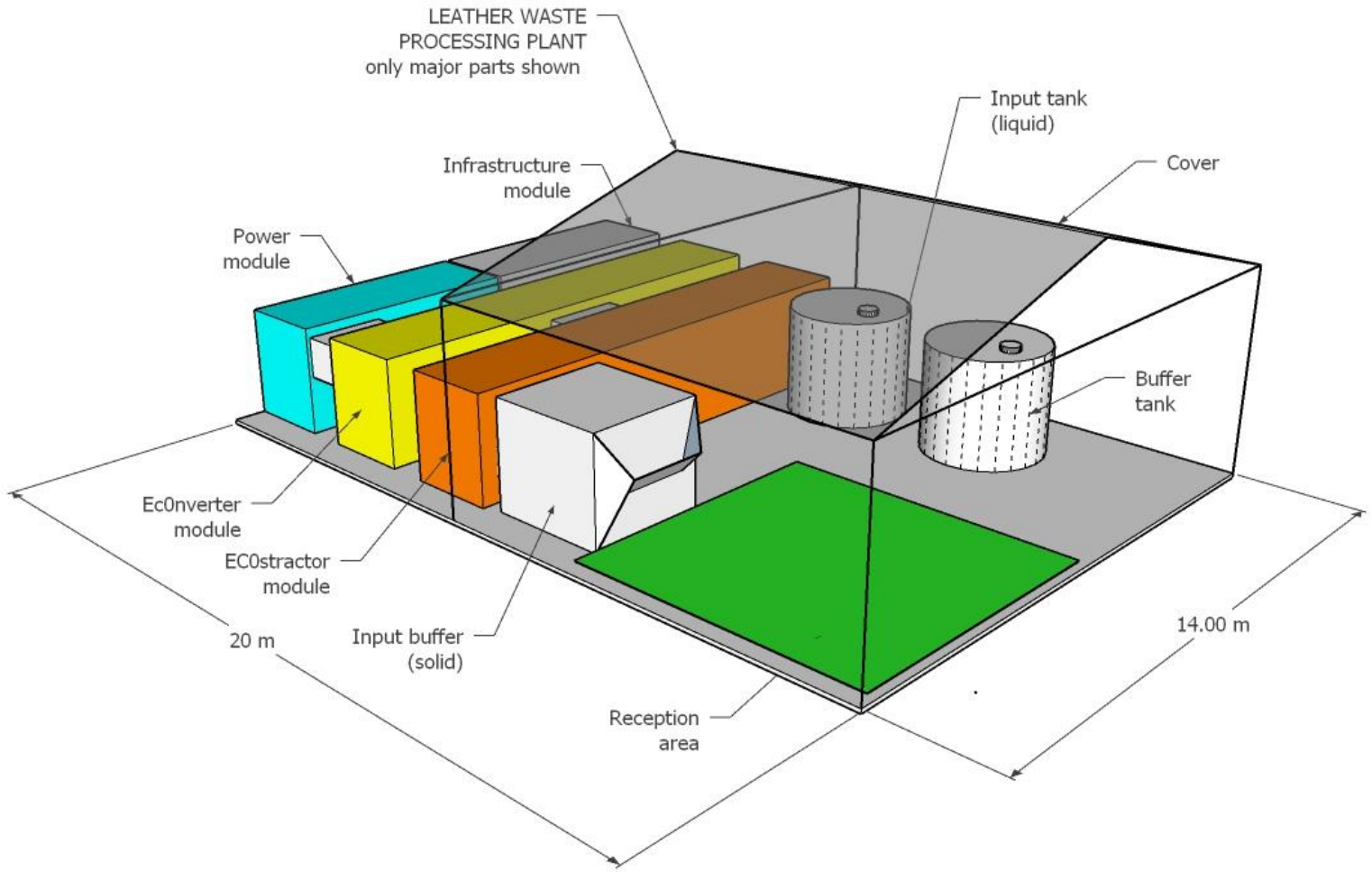
22 000 t / yr
Wastewater Residues,
cuttings and shavings
(containing chrome



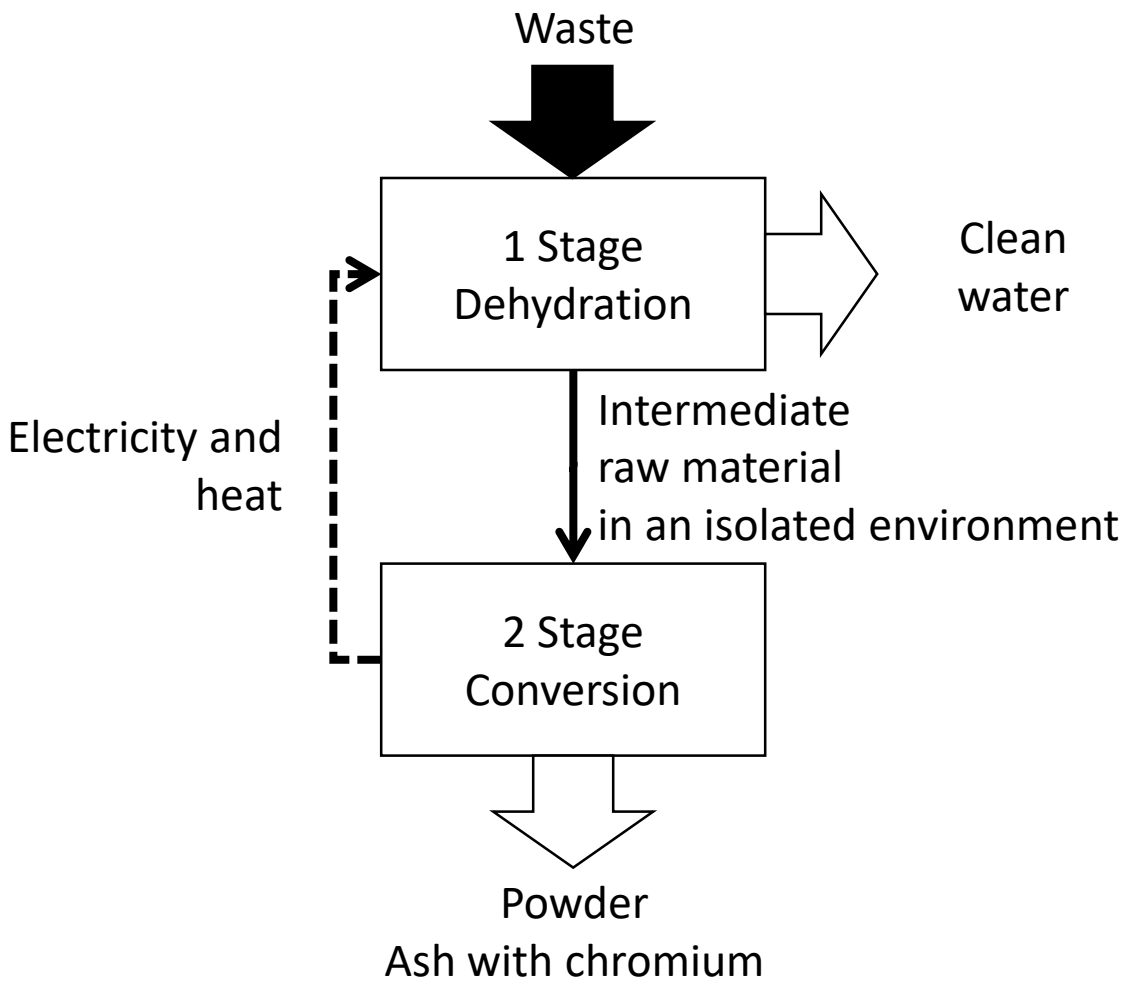
✓ Works 24/7/365

✓ Recycles the current waste of the plant and additionally disposes of the previously accumulated waste.
✓ The modules can be located on the territory of the storage site or on the territory of the enterprise.

General layout of the processing line



The main stages of processing



Eco-processing of other waste

1. ***Medical waste*** - high-temperature cracking based on the **DAVER C0nverter System** technology ensures efficient, environmentally friendly disposal of A, B, C and D class waste.
2. ***Waste from crop and livestock*** production is treated by using the **DAVER C0nverter System** technology, which ensures a high environmental friendliness of the conversion process, its autonomy and economy. The recycling process is accompanied by the production of electrical and thermal energy (and possibly clean water from high-moisture raw materials) to provide for all agricultural production (plants, feed, livestock complexes, etc.). The technology is not demanding on the humidity of the waste and the presence of pharmaceuticals in it.
3. ***Woodworking waste*** - the technology allows you to dispose of waste regardless of its moisture content, quality and homogeneity, as well as provide the main production with energy for processing and for drying wood.

Eco-processing of other waste

4. ***Waste from meat and fish processing production*** - **Ze0ic** module

- The problem of complete waste utilization is solved by a comprehensive solution or extension to a biogas plant with a **Ze0ic** bio-converter technological module.

- A topical direction for obtaining feed additives and energy from raw materials at the output of a bio-converter for obtaining biogas (anaerobic fermentation).

- The biogas conversion process is complete, environmentally friendly, energy efficient and closed.

Implementation of projects

1. All solutions are assembled individually for the needs of the customer.
2. The implementation is based on container-type modules (40 '), such a solution allows you to flexibly adapt to the main process, supplement it, place it compactly and, if necessary, transfer it to a new place.
3. Technical solutions do not require external energy, they autonomously provide the entire processing process and allow providing energy (heat and electricity) to external consumers.
4. The applied know-how is our own development and is more efficient (the highest environmental requirements, processing depth, energy and technical costs) than serial solutions.
5. Solutions based on our technology have already been implemented in private eco parks in a number of countries.

Thank you!

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DAVER-A!

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Adaptive
Versatile
Efficient
Results

- *AI & ML*
- *Automation*
- *IT driven*
- *Custom solutions*

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