

## THE PROBLEM

When producing peeled, sliced and juiced carrots Greens Engros begin by manually feeding a big bag of carrots one by one into a peeling machine to ensure that all the carrots are turned in the same direction and to remove carrots that are unclean or have black spots.

Another challenge for Greens Engros is the large amount of biological waste produced. In the carrot production there is waste in the forms of peels, ends and pulp, which at the moment are being sent to a biogas plant, where it is converted into biogas and fertilizer.

Greens Engros therefore wants to innovate the carrot production. Sparing the employee from repetitive work is their main focus but they would also like to utilize the biological waste better.

We realized that there was a huge potential in adding value to the waste from the production as sustainability is a hot topic and therefore we decided to go in this direction.

## OUR VISION



## THE SOLUTION

The peels and pulp from the production can be used to create value by seeing them as by-products instead of waste material. The technical implementation is based on the idea of transferring the excess heat from the cooling system to a dehydrator-oven.

Using this we have developed the following products:

### Carrot chips

Delicious oven backed chips with a crunchy and salty taste. The peels are cleaned, drizzled with oil and seasoned with salt. Eat alone or add to a salad for some crunch.

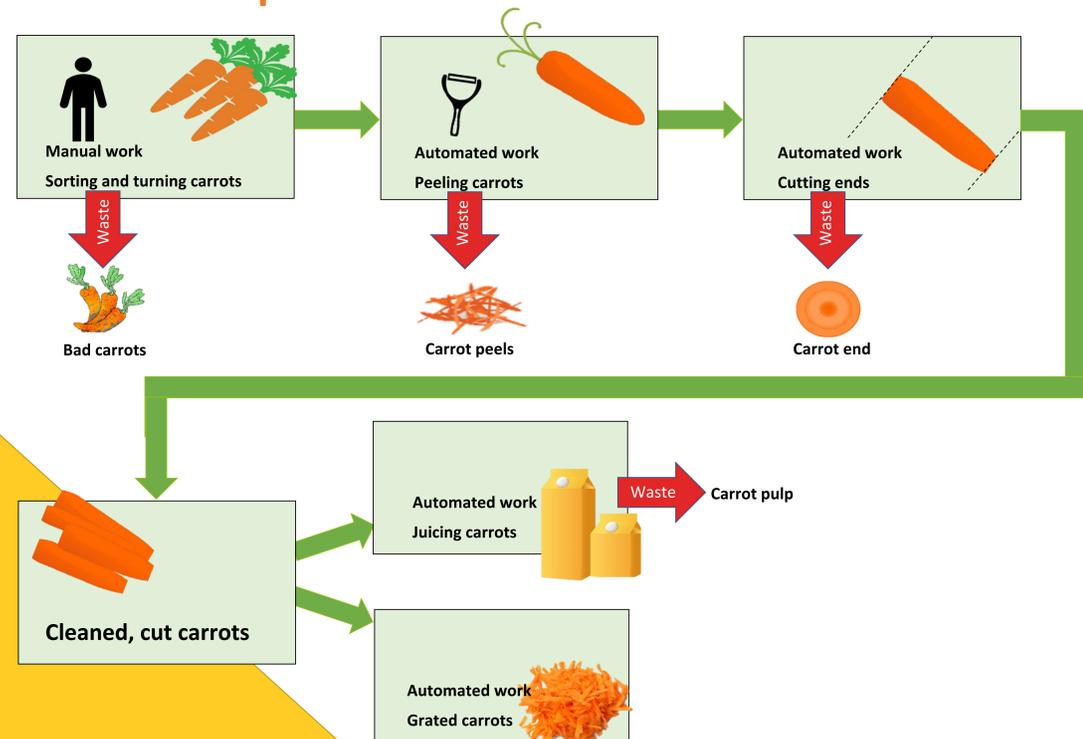
### Carrot flour

Made from 100% carrot pulp and/or peels. This flour can be used for many purposes. A possible use is for baking with the possibility to replace up to 50% of normal wheat flour.



## “How can we add value to the waste material from the carrot production?”

### The current production flow



## ECONOMY

The investment contains production facilities; Oven, vegetable cleaner and packing machine.

Investment: 591.000 kr.

Payback period: 4 years

Earnings after 7 years: 500.000 kr.

