



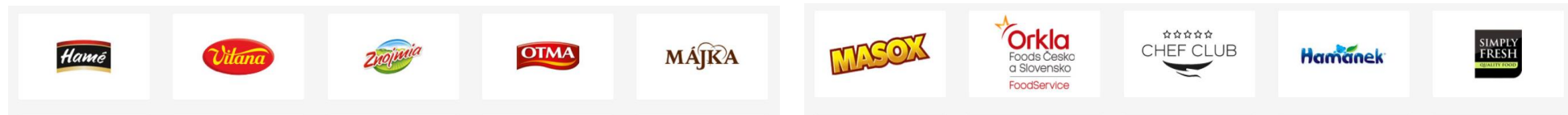
Project H₂O pilot

Hamé Babice

Tomáš Proksa

Committee for Sustainable and Ethical Production
10 November 2022

Our brands and factories



Orkla Foods Česko a Slovensko a.s.
Varnsdorf
koření a kořenici směsi

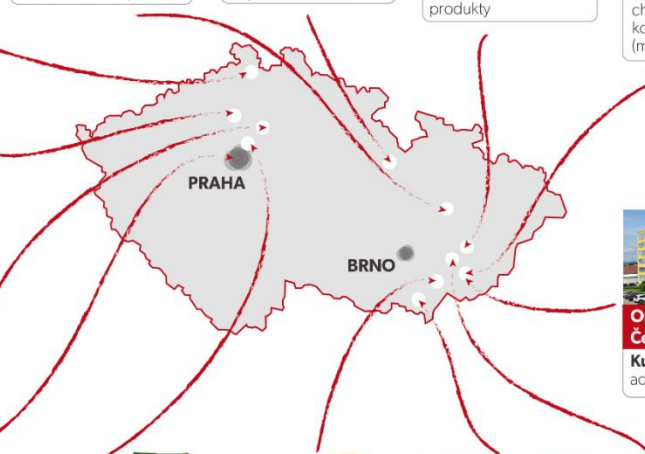
BAPA s.r.o.
Hněvotín
chlazená hotová jídla

BAPA s.r.o.
Letohrad
bagety a sendviče

Hamé s.r.o.
Babice
trvanlivé masové produkty

Slovácká Fruta, a.s.
Kunovice
chlazené paštiky, chlazená hotová jídla, kojenecké výživy (masozeleninové)

Orkla Foods Česko a Slovensko a.s.
Roudnice nad Labem
ryže a luštěniny



DOMA Prešov, s.r.o.
Prešov, Slovensko
majonézy, tataraky, dresinky

Orkla Foods Česko a Slovensko a.s.
Byšice
polévky, bujóny, hotová jídla, tekutá ochucovadla

Orkla Foods Česko a Slovensko a.s.
Kunovice
administrativní budova

Orkla Foods Slovensko s.r.o.
Pezinok, Slovensko
administrativní budova

Orkla Foods Česko a Slovensko a.s.
Praha (Waltrovka)
centrála společnosti

Orkla Foods Česko a Slovensko a.s.
Panenské Břežany
mražená zelenina a ovoce

PIKA, a.s.
Bzenec
konzervovaná zelenina

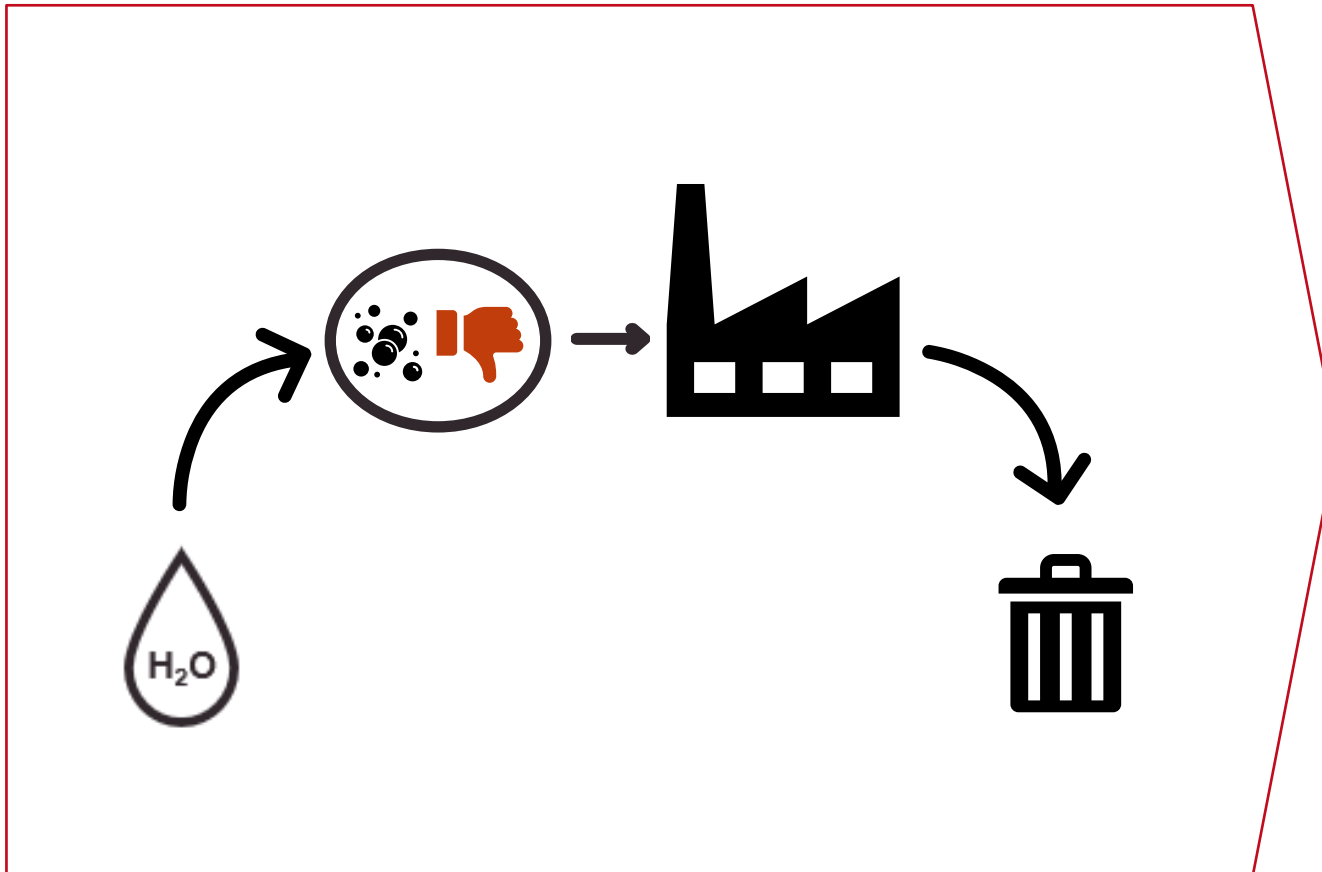
FRUTA Podivín, a.s.
Podivín
džemy, ovocné směsi, povidla, kojenecké výživy

Orkla Foods Česko a Slovensko a.s.
Staré Město
centrální distribuční sklad

Hame Hungária Kft.
Komárom, Maďarsko
administrativní budova

H₂O is strategic source for future production with factory consumption as small town with 13 500 people. 99,9% H₂O source from ground wells

In the past 100% of H₂O went to canalization (1 in 1 out)



Current real data



99,9 % H₂O from wells



13 500 people



NaClO → Fe, Mn



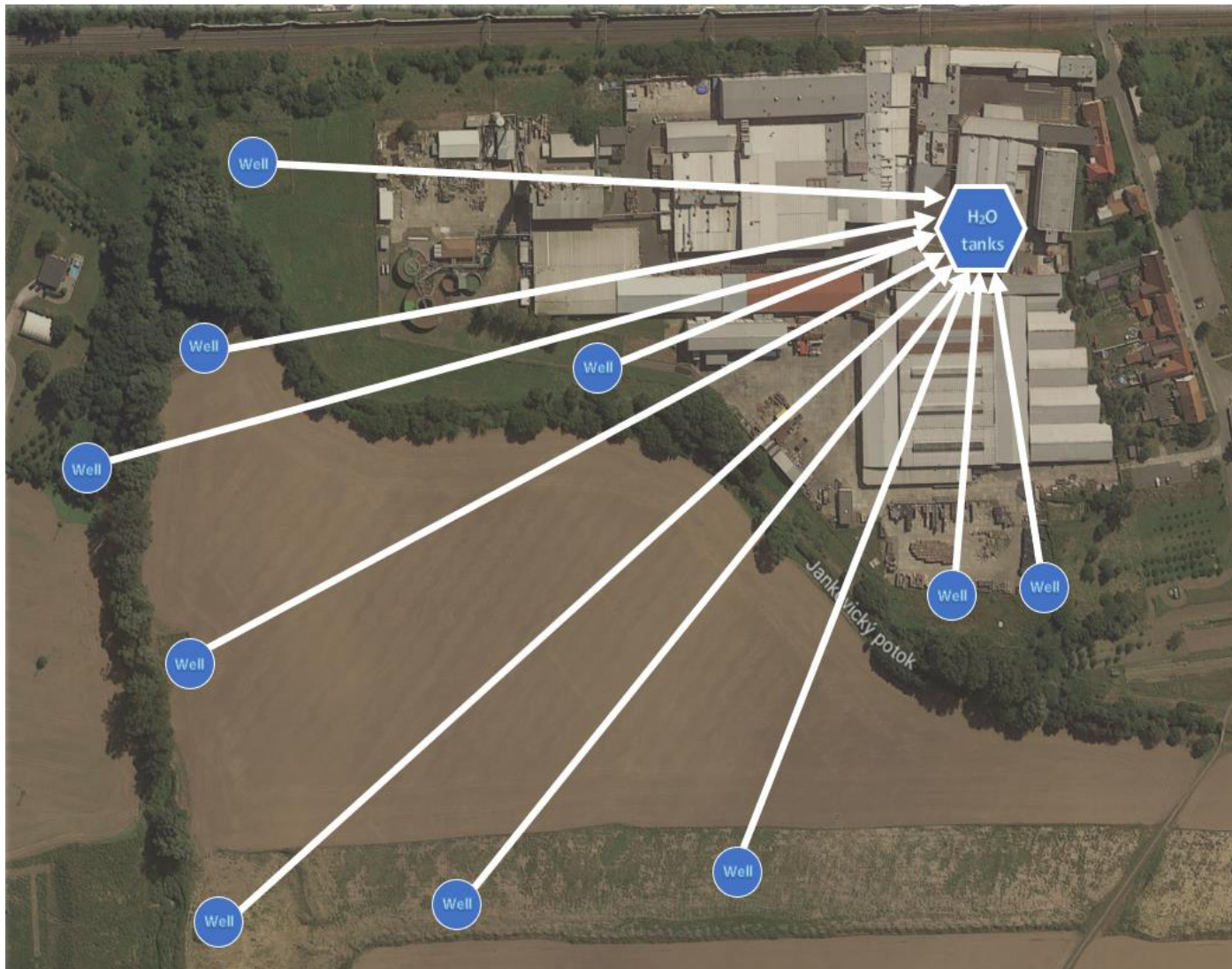
→ No energy reused



→



**Ground water source from wells is on critical limits
Pumps running 24/7. Real future production stops.**



Current situation in near rivulet „Kudlovický potok“ JUNE 2022

Run of H2O from Babice plant

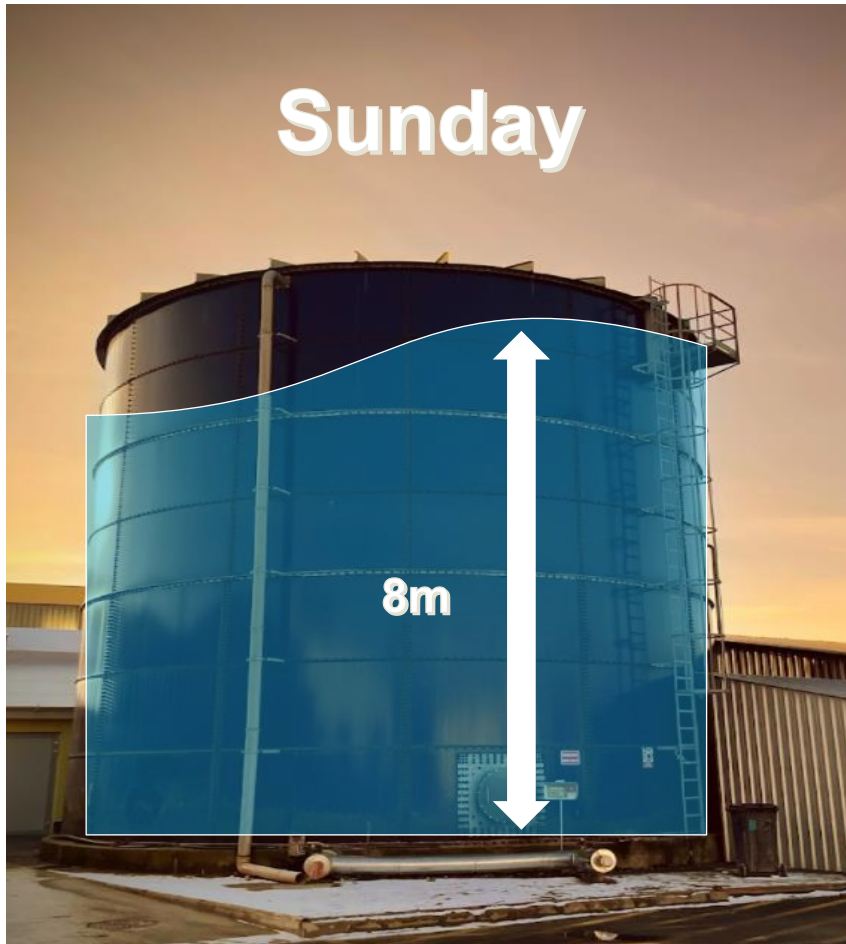


Rivulet Kudlovice before Hamé Babice H2O drain



H₂O tanks in Babice - situation during production week (Sun-Fri)

Water level before production start

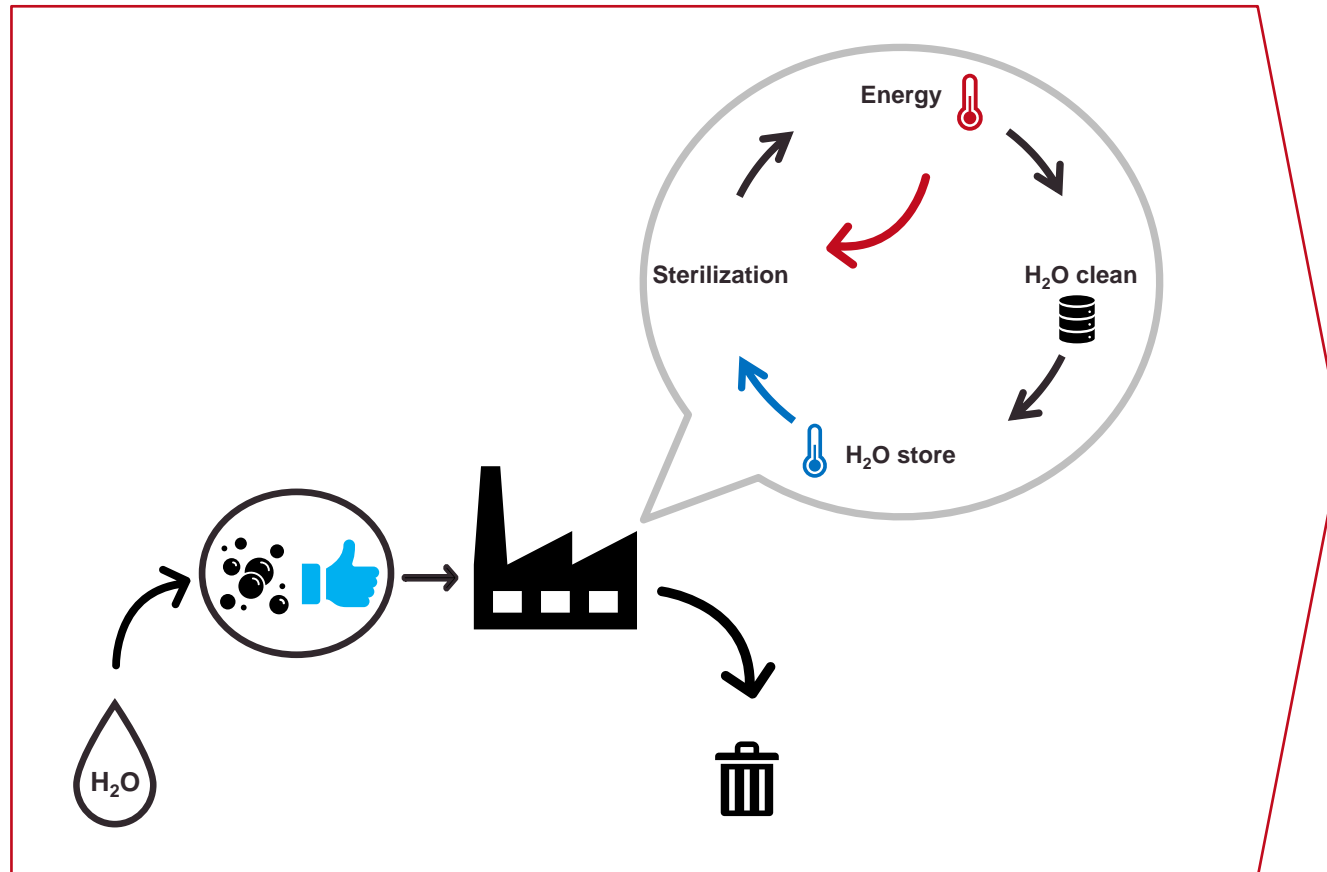


After end of production week



Project potential 300 000 m³ H₂O and 670t CO₂ to be saved through recyrculation process. Energy cost reduction up to 35% of GAS. ROI 3 years

H₂O processing loop schema



Case study data behind



< 300 000 000 l H₂O to be saved



10 000 people / year



3 500 MWh energy saved



+ 5,2 h/day sterilization capacity



+ 40 h/month



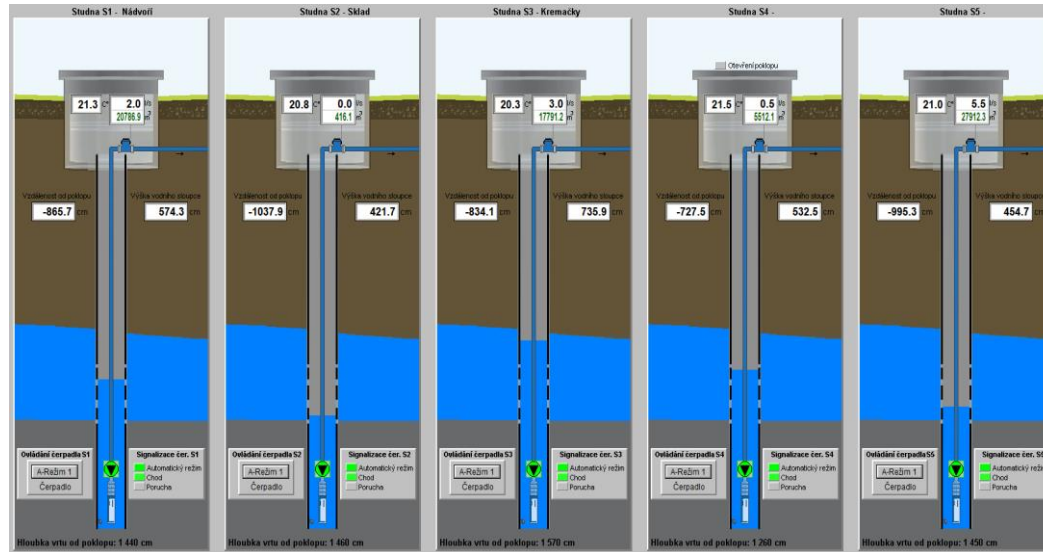
quality improvement

H₂O project: Phase 1 in 2021, Phase 2 in 2022



Phase 1 in project H₂O

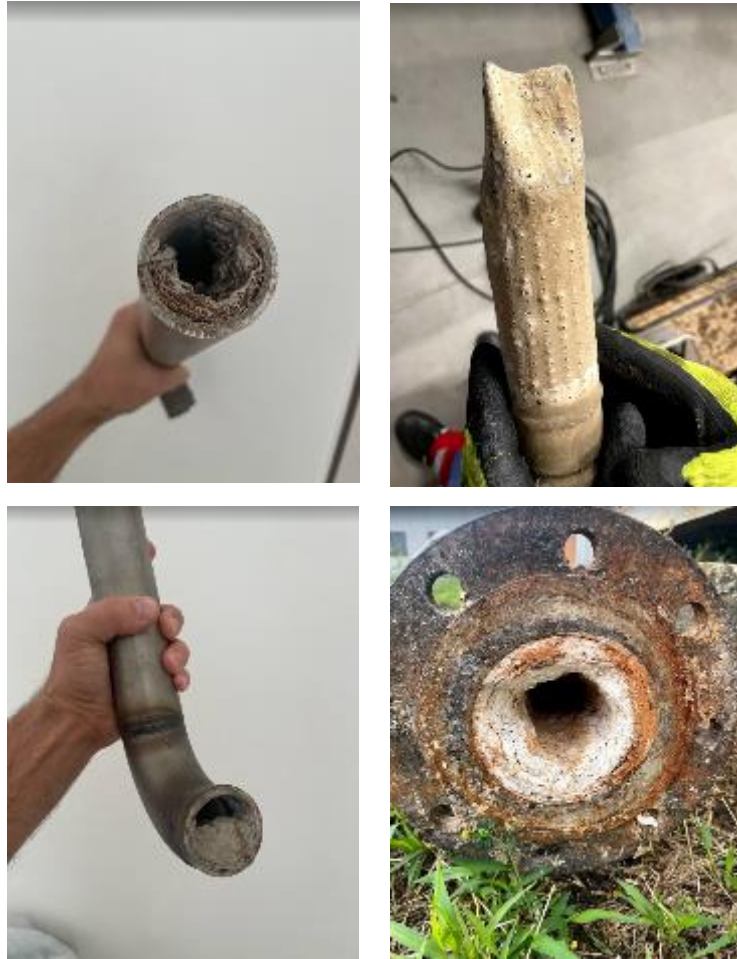
Stabilized outcome from water wells and water treatment extension



Phase 1 in project H₂O

H₂O quality improvement with impact to maintenance and facility cost

As is

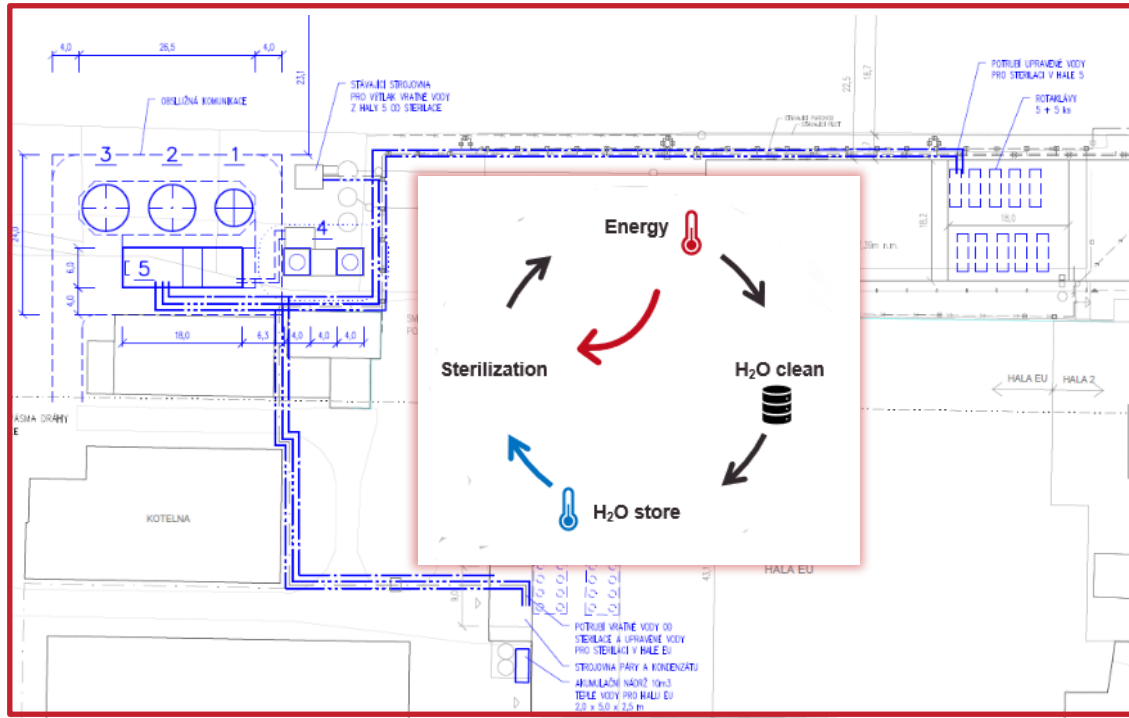


To be



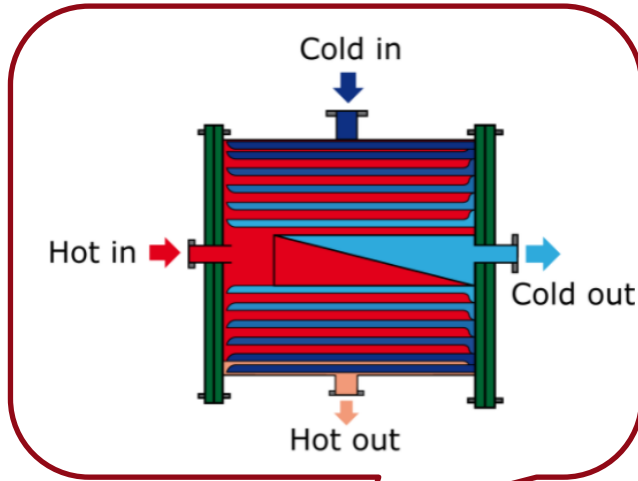
Phase 2 in project H₂O

H₂O closing loop and energy savings

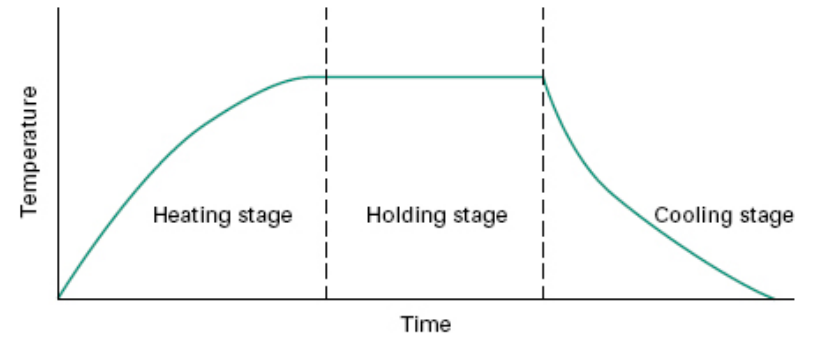


Energy saving done by using heating exchangers with hot and cold H₂O tanks for sterilization process

Hot H₂O from sterilization process will preheat H₂O for next sterilization process = energy saving and stored in hot H₂O tanks



Sterilization process:



Heating stage starting point:

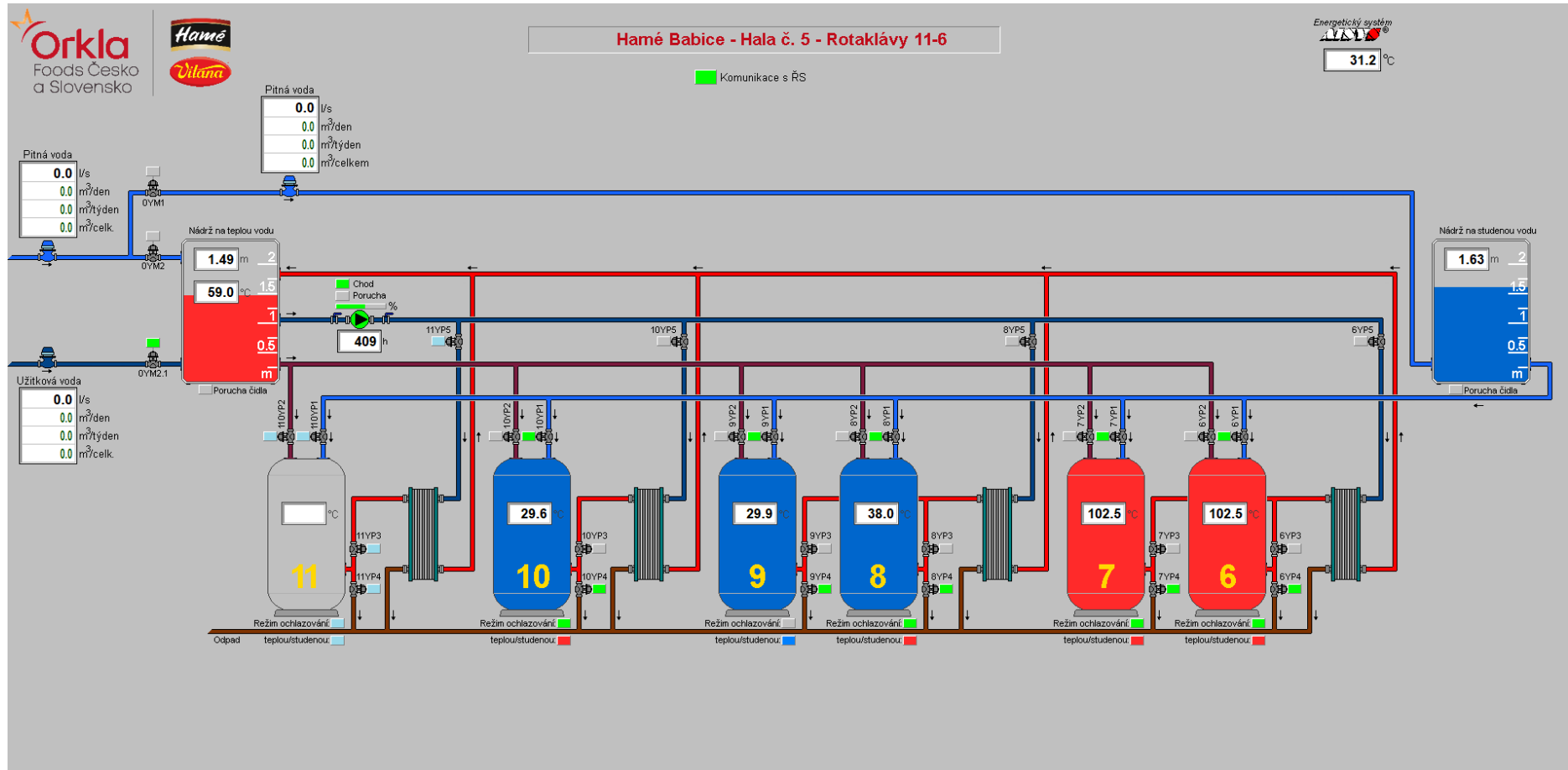
NOW:

10°C → 120°C

AFTER:

60°C → 120°C

Energy saving done by using heating exchangers with hot and cold H₂O tanks for sterilization processes



Project H₂O phase 2

Closing loop technology instalation to be finished in December 2022



Project H₂O phase 2

Closing loop technology instalation to be finished in December 2022



Roof of the building will be covered by FVE, cover energy consumption of the recuperation technology



Energy consumption of the technology will be covered by fotovoltaic power plant on the roof of new building



NEXT STEPS

- **Share our know how with others to save more H₂O, CO₂ and GAS for next generations**
- **Roll out of the energy saving solution withing the whole factory**
- **Roll out of solution for our biggest factories withing the Orkla**

Our other major projects:

- **Industrial heating pump focus for sterilization process with all benefits**
- **Use waste as source of energy**

<https://www.youtube.com/watch?v=cYvlksxJEd4>

tomas.proksa@orkla.no

Thank you